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AN EXAMINATION OF DEFENSE ACQUISITION
MANAGEMENT IN THE REPUBLIC OF CHINA:
COMPARISON WITH THE UNITED STATES

THESIS

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THESIS

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Ching-Tsung Jen

Major, ROCA

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Abstract

This thesis has explored the current issues of defense acquisition management in the Republic of China (ROC). The purpose of this research was to examine the managerial functions in defense acquisition systems and provide recommendations for further acquisition reform in the ROC. Using the exploratory case study approach, this research took a broad look at the ROC defense acquisition system by comparing it with the US acquisition system. To analyze the difference, five functional indicators were selected. These five indicators which represent the managerial functions during the acquisition process include Policy and Statutes, Acquisition Process, Acquisition Organization, Acquisition Workforce Training Systems, and Contracting Management. The results showed that there are several defects among these managerial functions. The major shortcoming of defense acquisition management in the ROC is the overall concept about acquisition. The weak definition on acquisition has contributed most to the defects found in this study. To remove these defects, this research has provided some recommendations to improve the functions of defense acquisition management in the ROC.

AN EXAMINATION OF DEFENSE ACQUISITION MANAGEMENT IN THE REPUBLIC OF CHINA: COMPARISON WITH THE UNITED STATES

I.   Introduction

General Issues

Government acquisition plays one of the critical roles in indicating the efficiency of the government administration. A sound acquisition system not only contributes to the fruitful outcome of efficient government, but also helps to upgrade the economic status, technology capability, and social stability of the country. For most advanced countries, in order to supervise government acquisition, rigorous acquisition systems have been created. These also help to cultivate domestic industry and promote national economic development.

For a long time, the Government of the Republic of China (ROC) on Taiwan has striven to build an effective acquisition system. After several years' effort, however, the result seems unacceptable to the taxpayers due to procurement scandals and disputes between the government and contractors (Su, 1993:2). The request for acquisition reform from the public not only puts the government on the spot, but also hints at the deficiency of the government administration.

Meanwhile, one of the important objectives for the ROC in terms of national economic development is to become a member of the World Trade Organization (WTO) (Chan, 1994:276). In order to join the WTO, the ROC has to sign the Government

Procurement Agreement (GPA) which will open the government procurement market to the WTO members. Unfortunately, the current acquisition system in the ROC does not comply with the regulations of GPA. Therefore, more acquisition problems may arise after the ROC becomes one of the members in the WTO if the current system does not change (Su, 1993:5; Sun, 1993:31; Lee, 1993:40; Chen, 1993:11; and Liu, 1995:26).

Considering these issues, the government of the ROC is undertaking a fundamental procurement reform by drafting a new statute which will govern the future operation of the overall procurement system (PCC, 1996:1). Unlike the acquisition reform in the US, which includes several teams to review acquisition activities such as contracting management, logistics support, and acquisition training, the only action taken for acquisition reform in the ROC is the drafting of a new law. No actions have been taken to examine the current status of government acquisition activities such as acquisition process, workforce training, contracting management, and so forth. Although the statute is a significant part of the acquisition activities, it seems risky to reform acquisition while ignoring the management function in the acquisition activities.

Specific Problem

Because of the critical nature of national security, defense acquisition continues to account for much of a government's budget. In the ROC, the constant threat from the other side of the Taiwan Straits requires a large amount of the budget go for defense expenditure. During the past decades, the Ministry of Defense (MoD) has been the major spender of the government budget. For instance, in the 1995 fiscal year, the budget for

the Ministry of Defense (MoD) was NT $262 billion (US $9.7 billion), which is 22.5% of the total national budget and 3.8% of the Gross National Product. In other words, almost one fourth of every tax dollar is used by the MoD (Taiwan, 1996:305-306). Furthermore, this budget does not include the costs of procurement for F-16 and MIRAGE 2000 which are several times the annual MoD budget.

Since 1992, a navy procurement scandal which resulted in the murder case of a procurement officer has kept the MoD in the headlines in the ROC. Several critical reports on defense acquisition have urged the MoD to reform its acquisition processes. Meanwhile, for reasons of national security, the so-called "black-box operation" process in the MoD acquisition system does not allow the release of procurement information to the public. Consequently, because of the size of its budget, the MoD will keep attracting major public attention. More specifically, due to the "black-box operation" process in defense acquisition, the MoD will continue to face tremendous challenges if the current acquisition process does not chagne.

For decades, the major defense weapon systems always came from the Foreign Military Sales (FMS) channel, which is an assistance program of the United States (US) to sell or support weapon systems to allies (Campbell, 1995:18). At the end of the Cold War, the global market for weapon systems bloomed, and business competition increased due to the downsizing of defense systems around the world. Unlike the FMS program, direct commercial purchasing provides not only much more choice of sellers in procurement, but also a good channel to cultivate the professional officers of global procurement. As one of the major buyers of weapon systems in the world, the ROC

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should have benefited from the open market and global competition. However, instead of direct commercial purchasing, the MoD tried to create the same programs as FMS with other weapon supplying countries. The question of "do we really benefit from the FMS program?" became a contentious topic.

Due to the above considerations and specific features of defense acquisition, it is necessary to examine the current MoD acquisition system as the ROC government continues to work on acquisition reform.

Research Objective and Question

The fundamental objective for this study is to explore the current MoD acquisition system, identify any weaknesses, and make recommendations which will facilitate effective ROC acquisition reform. By describing the current system and comparing it with the US Department of Defense (DoD) acquisition system, this study will provide and develop a scheme for improving the foundation of current MoD acquisition management in the ROC. To achieve the research objective, the following research question was used as the basis for this study:

What can be done to improve defense acquisition management in the ROC ?

Investigation Questions

It is necessary to probe the defects of the acquisition system to discover what can be done to improve defense acquisition management in the ROC. Since the focus of this study is on the management function, the four principle functions of management --- planning, organizing, staffing, and controlling --- will be investigated. Specifically, the

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investigation questions of this study will be as follows:

1. What is the current status of defense acquisition management in the ROC?

2. Compared it with the system in the US, what are the defects in defense acquisition management in the ROC?

3. What recommendations can be made in order to eliminate the defects of defense acquisition management?

Limitation and Assumption

Without considering the factors of cultural difference and national status, this study assumes that the four principle functions of acquisition management are the same no matter where the acquisition management is observed. In other words, there should be some activities or processes which relate to the planning function of acquisition management in the ROC and in the US, and there are also some activities or processes which relate to organizing, staffing and controlling in these two systems. Although there is no direct evidence to indicate that the US acquisition system is better than that of the ROC, some researchers have argued that the features of openness, fairness, and competition in the US acquisition system can be a good reference for the ROC in improving the government acquisition system (Su, 1993:4; Sun, 1993:31; Lee, 1993:40; and Chen, 1993:10). Meanwhile, some trends also show that US acquisition practices might become the standard in the GPA code (USTR, 1991:1-7). Based on these considerations and by comparing the two systems, this study reveals that the differences

between the two systems have important implications for the direction for improvement of acquisition management in the ROC.

Summary

In this chapter, the problems of the acquisition system in the ROC were introduced. Specific issues of defense acquisition management and the research objective were presented. Based on the objective and the issues, the research question and investigation problems were identified. Chapter II, the literature review, explores the most current literature in this field. A detailed introduction to the acquisition systems for the ROC and the US is also be presented. Chapter III describes the methodology of the research. Chapter IV contains the results of comparative analysis. Chapter V provides recommendations and conclusions.

II.   Literature Review

Overview

No one will deny the complexity of the defense acquisition system. Hundreds of thousands of employees work in DoD acquisition organizations, which execute millions of contract actions every year (Ferrara, 1996:106). Internally, the acquisition system involves system engineering, financial and funds management, cost analysis, production management, logistics support, contracting management, and requirements definition. Externally, the acquisition system must face the oversight from Congress and the public, the continuously changing environment of industries, and unpredictable technological evolution. Accordingly, the management of system acquisition not only involves mechanisms for decision making, funding, negotiating, and responding to congressional oversight, but also for the daily tasks of managing the business and technical aspects of each program. The acquisition program manager, especially, must attend to frequent external influences such as oversight and funding, technology changes, and industrial capability, many of which are beyond his/her direct control (Schmoll, 1996:57).

Because the external environment is beyond his or her control of the acquisition program manager, this study will focus on the internal operation of the acquisition system. However, even from an internal perspective, there are still many subjects relative to the acquisition system. It is impossible for this study to cover all of these areas. This study will focus on the management function of the acquisition system.

<u>Literature Discussion</u>

According to the definition in <u>Federal Acquisition Regulation</u> (FAR),

acquisition means the acquiring supplies or services by contract with
appropriate funds by and for the use of the Federal Government through
purchase or lease, whether the supplies or services are already in existence
or must be created, developed, demonstrated, and evaluated. (GSA, 1996:
Part 2, 1)

The defense acquisition system is a single uniform system whereby all equipment,

facilities, and services are planned, developed, acquired, maintained, and disposed of by

the agency of defense --- e.g., MoD in ROC or DoD in US. This system includes

policies and practices that govern acquiring, identifying and prioritizing resource

requirement; directing and controlling the process; contracting; and reporting to congress

(Schmoll, 1996:1). The primary objective of the defense acquisition system is to acquire

quality products that satisfy the needs of the operational user with measurable

improvements to mission accomplishment, in a timely manner, at a fair and reasonable

price. Successful acquisition programs are fundamentally dependent upon competent

people, rational priorities, and clearly defined responsibilities (DOD, 1996:D).

In his book, <u>Introduction to Defense Acquisition Management,</u> Schmoll defines

acquisition as including research, development, test and evaluation, production,

procurement, and operations and support. He also highlights the word "procurement,"

which is the act of buying goods and services for the government. This is often

mistakenly considered synonymous with acquisition (1996:1-2). Unfortunately in the

ROC, most of the agencies, including MoD, regard acquisition as the same activity as

procurement (Tien and others, 1995:278). Because of this prevailing concept about

acquisition, procurement officers in the ROC believe that acquisition is as simple as the act of buying goods or services, rather than a process which may include research, development, test and evaluation, production, upgrade, support, and finally, demilitarization and disposal.

Although there is no direct evidence that the US acquisition system is better than that of ROC, the open, fair and competitive policy of the acquisition system in the US can become a reference for the ROC government in striving toward soundness in the acquisition system (Sun, 1993:34). Because the ROC government has to sign the Agreement of Government Procurement (AGP) in order to become a member of the WTO, a document citation from the US Trade Representatives to the state and local governments about the AGP has implied that the US acquisition system will become the standard for the code of the AGP. The document showed the following

> The AGP (Agreement on Government Procurement) code establishes a minimum standard for tendering procedure. These rules include full transparency in the bidding and award process, the use of unbiased technical specification and award criteria, and equal treatment for all offers of code signatory origin. For the most part, these rules were based on existing US practice . . . .Because all significant purchases financed by US taxpayers are normally made under competitive tendering procedures, the code has the effect of bringing the purchasing procedure of other countries more into line with US standard practice. (USTR, 1991:7)

Therefore, even though the US government is also undergoing acquisition reform, it seems that the US system is still a good model for the ROC to tailor a new acquisition system which will meet the AGP requirement.

Previous researchers have indicated some acquisition flaws in the ROC. These flaws include the problems of openness, fairness, and competition during the acquisition

process (Sun, 1993:31; Su, 1993:4; Chen, 1993:10; & Lee, 1993:40). In her article

published in <u>Taiwan Economy Research Monthly</u>, Lee pointed out four defects in

government acquisition. These defects are (1) publication is not open enough, (2)

specification design is brand-oriented, (3) there is no function about contracting

management, and (4) there is too much restriction for bidders. She also declared that the

ROC government acquisition will not comply with the code of AGP without removing

these four shortcomings (1993:42-43). To avoid the earlier procurement scandals, Liu

suggested six approaches to solve the acquisition problems. The six approaches are as

follows:

1) Set up the Procurement Office to be in charge of the acquisition policy and process within the government agency
2) Severely examine the qualification of contractors.
3) Establish the national contractor data system.
4) Upgrade the capability of the procurement officers
5) Control the performance bond, and
6) Improve the contractor performance management system (Liu, 1995:27-29).

Although the MoD is one of the major players in the government procurement

arena, the public had not paid much attention to it until the murder case of the navy

procurement scandal. In May 1996, the first national conference on the topic of defense

acquisition was held in the National Defense Management College. During the

conference, several recommendations were presented with the proceedings papers.

Among them were recommendations for improving the training systems for procurement

(Wang and others, 1996:22-24), for urging the professionalism of procurement workforce

(Kuo and others, 1996:20), for advancing acquisition planning (Hsu and others, 1996:14-

27), and for increasing the quality of acquisition management (Chou and others, 1996:29-

35). It is gratifying to see that the conference indeed found several problems among the defense acquisition activities. However, it is regretable not to see concrete answers to these problems and suggestions for the MoD how to remove these defects.

Similarly, previous researchers have pointed out the problems of government acquisition, but the specific actions suggested by the researchers to conquer these problems can seldom be found. Moreover, no research has ever been done to review the entire acquisition system from the perspective of management functions. This situation can be explained by a description of the paper presented by Kuo and others in the first national conference on defense acquisition management. They addressed the problem that because no one regards acquisition as a process of management functions, most of the disciplines and operation standards for the MoD acquisition system are built by experiences from daily tasks (1996:1). Therefore, how to create a logical model to support acquisition management has become an urgent mission for the ROC.

Acquisition System Profile

According to DoD Directives 5000.1, there are three decision support subsystems in the entire acquisition system. These three subsystems include the requirement generation subsystem (RGS); the acquisition management subsystem, and the planning, programming and budgeting subsystems (PPBS) (Schmoll, 1996:16). With the effective interaction of three support subsystems, the acquisition system can function very well. The acquisition system is shown in Figure 1.

ACQUISITION SYSTEM

FEEDBACK

INPUT:
NEED & FUNDS

PROCESS:
MANAGEMENT

OUTPUT:
SYSTEMS

FEEDBACK

INPUT:

Need--RGS
Funds--PPBS

PROCESS:

Management:
Planning
Organizing
Staffing
Controling

OUTPUT:

Systems:
Hardware
Software
Logistics Support
Training
Reports
Mannuals
Facilities
Spares
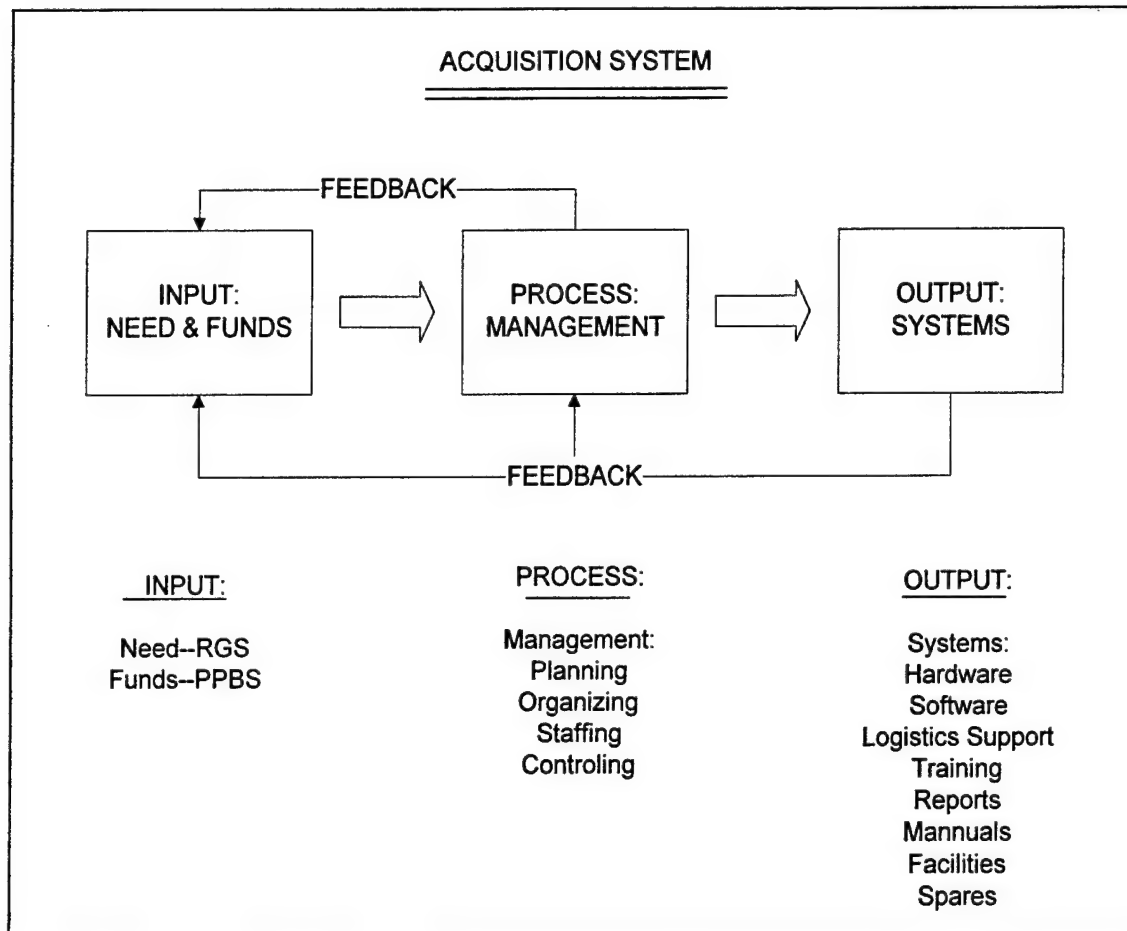
Figure 1. Acquisition System

The RGS is based on a continuing process of assessing the capabilities of the

current force structure to meet the projected threat, while taking into account

opportunities for technological advancement, cost savings, and changes in national policy

or doctrine (Schmoll, 1996:39). According to the CJCS MOP 77, the Chairman of the

Joint Chiefs of Staff, assisted by the Vice Chairman and other members of the Joint

Chiefs of Staff, establishes and publishes policies and procedures governing the

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requirements generation system. The Vice Chairman oversees the operation of the requirements generation system in accordance with these policies and procedures to ensure that the responsibilities of the Chairman under title 10, United States Code, are fulfilled (DoD, 1992:1-2).

The purpose of the Planning Programming and Budgeting Subsystem (PPBS) is to produce a plan, a program, and finally, a budget for the DoD. Throughout the three major phases of planning, programming and budgeting, the Secretary of Defense (SECDEF) provides centralized policy direction while delegating program development, execution authority, and responsibility to the DoD components. Participatory management is used in each phase to provide operational commanders the best mix of forces, equipment, and support attainable within resource constraints.

The United States Defense Acquisition System

Policy and Statutes. One of the main contributors to the successful and stable defense acquisition system of the US is that the government has developed effectual policies and statutes to regulate the process. The authority for DoD to conduct systems acquisition---i.e., to develop, produce, and field weapons systems---flows from four principal sources. These sources include the Law, Executive Direction, OMB Circular A-109, and Federal Acquisition Regulation (FAR) (Schmoll, 1996:8).

The Law. Statutory authority from Congress provides the legal basis for system acquisition. Some of the most prominent laws include the Armed Services Procurement Act, the Small Business Act, and so on. Table 1 shows the chronological evolution of the acquisition statutes.

Table 1. Evolution of Acquisition Statutes

Statutes	Year
Armed Services Procurement Act	1947
Small Business Act	1963
Office of Federal Procurement Policy Act	1983
Competition in Contracting Act	1984
DoD Procurement Reform Act	1985
DoD Reorganization Act	1986
Federal Acquisition Streamlining Act	1994
Title 10, United States Code	

Executive Directions. Authority and guidance also emanate from the Executive Branch in the form of executive order, national security and presidential decision directives, and other departmental or agency regulations. Examples include Executive Order 12352 in 1982, which directed procurement reforms and establishment of the Federal Acquisition Regulation (FAR); National Security Decision Directive 219 in 1986, which directed implementation of recommendations from the President's Blue Ribbon Commission on Defense Management; and National Security Review 11 in 1989, which directed the Defense Management Review and the subsequent Defense Management Report to the President (Schmoll, 1996:9).

OMB Circular A-109. This document defines the system acquisition process as a sequence of acquisition activities starting from the agency's mission needs, with its capabilities, priorities, and resources, extending through introduction into use or successful achievement of program objectives. It establishes basic acquisition policy for all federal agencies, particularly for major programs (Schmoll, 1996:90). The two most important documents which guide the defense acquisition process and activities are DoDD 5000.1, Defense Acquisition and DoD Regulation 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS).

Federal Acquisition Regulation (FAR). The FAR is the primary regulation for use by all federal agencies for the acquisition of supplies and services with appropriated funds. This document, published in 1984, consolidated the major procurement regulations of various departments and agencies. The intent was to standardize content and decrease the volume of regulatory guidance while establishing a consistent set of procurement rules throughout the federal government. The FAR guides and directs the defense program manager in many areas, including contract award procedures, acquisition planning, warranties, and guidelines for competition. Besides the FAR, each federal agency has a supplement to describe its own particular ways of doing business. The DoD supplement is the Department of Defense Federal Acquisition Regulation Supplement (DFARS) (Schmoll, 1996:9-10). The FAR also establishes the standard of behavior and the relationships between the government and contractors.

Acquisition Management Process. The acquisition of a system is a process that begins with the identification of a need; encompasses the activities of design, test, manufacture, operations and support; and ends with the disposal, recycling, or demilitarization of the system. The defense acquisition management process is structured by DoD Regulation 5000.2-R into discrete, logical phases separated by major decision points, called milestones, to provide the basis for comprehensive management and progressive decision making. Phases and milestone decision points facilitate the orderly translation of broadly stated needs into system-specific performance requirements and a stable design that can be produced efficiently. The phases and milestone decision points provide the context within which a system is designed, developed, and deployed during its life cycle (DoD, 1996:Pt 1, 1). The acquisition milestones and phases of the process are shown in Figure 2.

	PHASE 0	PHASE I	PHASE II	PHASE III	
Determination of Mission Need	Concept Exploration	Program Definition & Risk Reduction	Engineering & Manufacturing Development	Production, Fielding/ Deployment, & Operational Support	Demilitarization & Disposal

MS 0   MS I   MS II   MS III

Approval to Conduct Concept Studies	Approval to Begin a New Acquisition Program	Approval to Enter Engineering & Manufacturing Development	Approval to Enter Production or Fielding/ Deployment

Figure 2. Milestones and Phases of the Acquisition Process

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Although this four-phase process is the standard in DoD acquisition, the number of phases and decision points should be tailored to meet the specific needs of individual programs. Detailed descriptions about these processes for different magnitudes of acquisition programs will be presented after the introduction of each phase and milestone.

Phase 0, Concept Exploration, focuses on the definition and evaluation of the feasibility of alternative concept. Comparisons of alternative concepts normally result in identification of the most promising system concepts. After the concept exploration study is finished and the most promising alternative is recommended, the process goes to the Milestone I decision making point. Then the milestone decision authority (MDA) will decide to approve a new acquisition program.

In Phase I, Program Definition and Risk Reduction, the activities will refine assessments of the alternative concepts through efforts to reduce risk so that technology, manufacturing, and support risks are well in hand. After phase I, the MDA will approve the program entering the engineering and manufacturing development phase.

Phase II, Engineering and Manufacturing Development, will translate the most promising design approach into a stable, interoperable, producible, supportable, and cost effective design; validate the manufacturing or production process; and demonstrate system capabilities through testing. After phase II, the MDA will approve production or fielding/deployment.

In Phase III, Production or Fielding/Deployment and Support, the tasks will achieve an operational capability that satisfies mission needs, resolves and verifies fixes

encountered during testing, and assesses potential for modifications to the fielded/deployed system. Finally, the demilitarization and disposal occurs at the end of a system's useful life (DoD, 1996:Part 1).

Major Weapon Systems. The acquisition process for a major weapon system usually consists of the milestones and phases mentioned in the previous section. Some non-major weapon systems might follow the same process. Accordingly, a new acquisition program begins at Phase I after the approval of Milestone I. After the program begins, several activities for each phase must be completed and evaluated before the program proceeds to the next phase. The critical activities for each phase and decision points for each milestone are shown in Figure 3.

Title	Pre Milestone 0	Phase 0 Concept Exploration	Phase I Program Definition & Risk Reduction	Phase II Engineering & Manufacturing Development	Phase III Production, Fielding/ Deployment & Operational Support
Activitites	1. Mission Area Assessment 2. Identify mission needs that cannot be satisfied by nonmateriel solution 3. Prepare Mission Need Statement	1. Evaluate Feasibility of Alternative Concepts 2. Determine Most Promising Concept Solution.	1. Design Systems 2. Demonstrate Critical Processes and Technologies	1. Mature and Finalize Selected Design 2. Validate Manufacturing & Production Process 3. Test & Evaluate Systems	1. Produce & Field/ Deploy Systems 2. Monitor System Performance 3. Support Fielded System 4. Modify/Upgrade System
Decision Points		MS 0 Approval of: —Conduct of short-term concept studies —Phase 0 exit criteria	MS I Approval of: —Acquisition Strategy —Cost as indepent variable (CAIV) objectives —Initial Acquisition Program Baseline (APB) —Phase I exit criteria	MS II Approval of: —Acquisition Strategy —CAIV objectives & upgrade APB —Low Rate Initial Production Quantity —Phase II exit criteria	MS III Approval of: —Acquisition Strategy — Production or Deployment Upgrade APB —Phase III exit criteria

Figure 3. Critical Activities and Decision Points of Major Weapon System Acquisition

Commercial item Acquisition. Whenever an acquisition is not a major system, market research indicates that there are commercial items or non-developmental items (NDI) that will fulfill the government's needs, and the contracting officer decides that a written solicitation is necessary, the policy and procedure for commercial item acquisition, FAR Part 12, must be followed. The fundamental process for commercial item acquisition is shown in Figure 4.
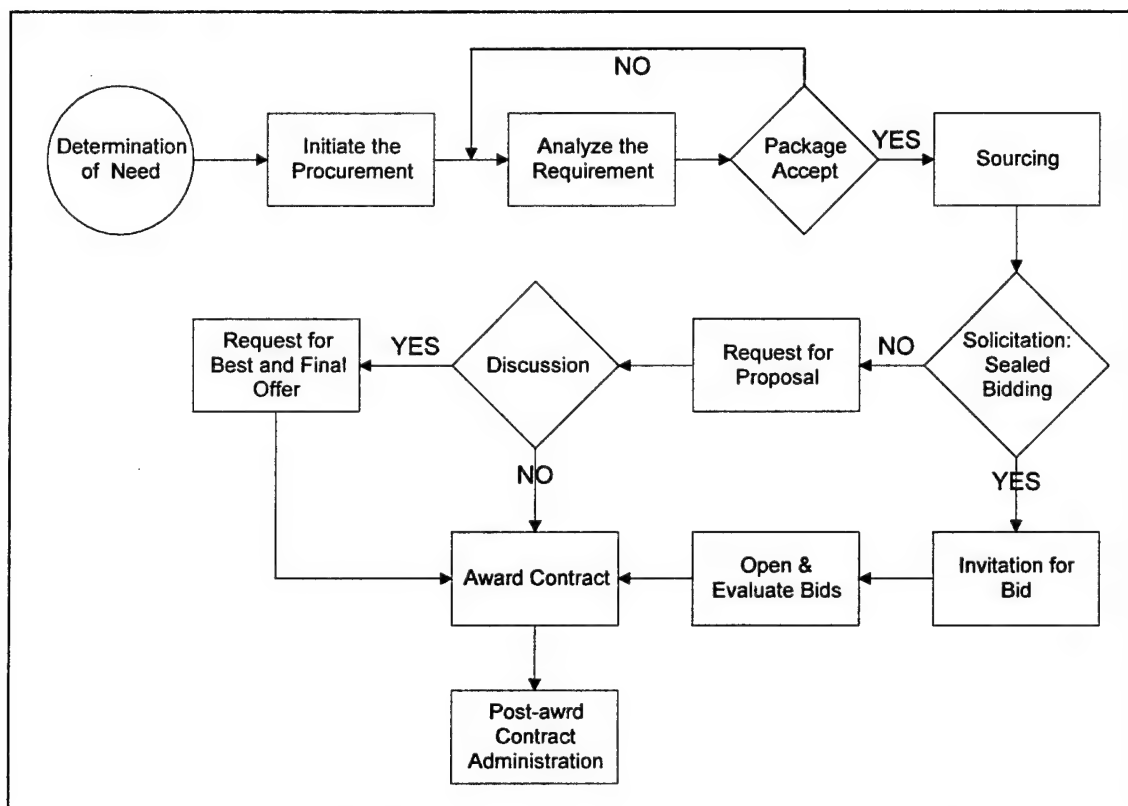
Figure 4. The Fundamental Process of Commercial Item Acquisition

The potential benefits to the Department of Defense from the use of commercial items and NDI to meet requirements have grown in number and significance over the last two decades as the defense environment has changed. Except for the purchases less than $100,000, which may use the simplified acquisition procedure, there are two methods of solicitation for commercial item acquisition. One is sealed bidding, and the other is negotiation. Usually after the user's need has been determined, the contracting officer will analyze the requirement, do market research, complete the process of sourcing, and determine which method of solicitation will be used. No matter which method of solicitation is used, the contracting officers must synopsize the purchase in the Commerce Business Daily (CBD) or Federal Acquisition Computer Network (FACNET). As long as the bids or proposals are accepted from the potential contractor, the contracting officers will follow the business procedure before awarding the contract (Sherman, 1995:107-125).

Simplified Acquisition. Whenever the government intends to make a major purchase, it usually goes through an elaborate procedure of soliciting bids or proposals. The contracting officers, engineers, lawyers, and other government experts evaluate these bids and proposals to determine which one is most advantageous to the government, considering price and other factors. The government performs these costly evaluations because the savings will likely exceed the money spent on the salaries of the evaluators and related administrative expenses (McVay, 1996:67).

However, the government will not spend the same amount of time and effort on small purchases. According to McVay, 99% of all government contract purchases meet

the requirements for small purchases (McVay, 1996:67). It is too costly to use the same procedure as for acquiring major weapon systems. In order to effectively do business, the FAR Part 13 authorizes the contracting officer to use the simplified acquisition procedure when the contract award cost does not exceed $100,000 (GSA, 1996: Part 13, 1). On a purchase of $100,000 or less, the expenses of administration and time-consuming paper processes associated with the preparation and evaluation of formal solicitation would normally exceed any savings that might be realized by using a formal solicitation (McVey, 1996:68).

Under the authorization of FAR Part 13, the contracting officers have several means to perform simplified acquisition. These means include Federal Acquisition Computer Network (FACNET), oral solicitation, request for quotation (RFQ), blanket purchase agreement (BPA), and micro-purchase.

In the FACNET solicitation, the contracting officer describes the supply or service as concisely as possible, such as by identifying the part numbers of replacement components. FACNET is the preferred method of soliciting and receiving quotations for purchases exceeding the $2,500 micro-purchase threshold, but not exceeding the $100,000 simplified acquisition threshold. If the contracting activity has a FACNET capability, the contracting officer may place the solicitation on the FACNET and solicit quotations. Potential suppliers can review the solicitations on the FACNET and submit quotations through the FACNET.

If the contracting activity does not have at least an interim FACNET capability, or the contracting officer decides not to use the FACNET, the contracting officer will

usually solicit the purchase orally. He or she selects several local small business suppliers from the applicable bidders list, calls them on the telephone, and solicits a quotation from each. If the contracting officer obtains competitive quotations, he or she relies on the competition to insure the lowest quoted price is fair and reasonable. Then the lowest quotation bidder will be awarded the contract. According to the FAR, the threshold for oral solicitation is an expected price less than $25,000.

Instead of oral solicitation, the RFQ procedure is a written solicitation approach. Like oral solicitation, the contracting officer prepares and sends the standard form to small business suppliers selected from the bidders list. However, if the expected purchase is over $25,000, the contracting officer must synopsize the purchase in the Commerce Business Daily and give interested suppliers 15 days to request a copy of the RFQ.

The BPA is a simplified method of filling anticipated repetitive needs for supplies or services by establishing charge accounts with qualified sources of supply. The contracting officers may use BPA approach to make repetitive purchases of $100,000 or less for the same or similar supplies or services. The BPA is not a contract: no money is spent when the government issues a BPA to a supplier. The orders are the actual contracts that contain the money.

Micro-purchase is one of the simplified methods whenever the purchase is under $2,500. Most of the micro-purchases are for normal, day-to-day purchases of consumable supplies and routine services. The means for micro-purchases include the government-

wide commercial purchase card (like a credit card), FACNET, and third-party drafts (like checks).

Acquisition Organization. Organizing is one of the main functions of management in the defense acquisition process. The acquisition organization in defense system acquisition involves establishing an organization structure, like a program office, to accomplish the acquisition goals and objectives. According to the FAR, government members of the acquisition team must be identified—beginning with the customer and ending with the contractor of the product or service. By identifying the team members in this manner, teamwork, unity of purpose, and open communication among the team members in sharing the vision and achieving the goal of the system are encouraged. Moreover, the government members of the acquisition team must be empowered to make acquisition decisions within their areas of responsibility, including selection, negotiation, and administration of contracts consistent with the FAR (GSA, 1996:Part 1, 3).

There are a number of organizational structures for organizing an acquisition program team. Some of the structures used include functional, product, matrix, and integrated product teams (IPTs). Because the program's goals and objectives are based on the mission requirements that are to be satisfied through effective program planning and execution activities, the organization structure should be driven by and tailored to meet the acquisition program's goals and objectives (McDaniel, 1996). According to DoD Acquisition Reform, although the matrix structure is the most prevalent within the Services, use of the IPT structure is increasing.

Integrated Product Teams are cross-functional teams that are formed for the specific purpose of delivering a product for an external or internal customer. IPT members should have complementary skills and be committed to a common purpose, performance objectives, and an approach for which they hold themselves mutually accountable. Members of an integrated product team represent technical, manufacturing, business, and support functions and organizations which are critical to developing, procuring and supporting the product. Having these functions represented concurrently permits teams to consider more and broader alternatives quickly, and in a broader context, enables faster and better decisions. Once on a team, the role of an IPT member changes from that of a member of a particular functional organization, which focuses on a given discipline, to that of a team member, who focuses on a product and its associated processes. Each individual should offer his/her expertise to the team as well as understand and respect the expertise available from other members of the team. Team members work together to achieve the team's objectives. The typical program office structure for the IPTs structure is shown in Figure 5.

Critical to the formation of a successful IPT are three items: (1) all functional disciplines influencing the product throughout its lifetime should be represented on the team; (2) a clear understanding of the team's goals, responsibilities, and authority should be established among the business unit manager, program and functional managers, the IPT; and (3) identification of resource requirements such as staffing, funding, and facilities must be completed. The above can be defined in a team charter which provides guidance (OUS[A&T], 1996:9).

Program Office Organization
Integrated Product Team structure

Program Manager

Director of Production

Director of Finance Mgt

Director of Contracts

Director of Test

Director of Engineer

Director of Logistics

Air Vehicle IPT

Engine IPT

Support System IPT

Training System IPT
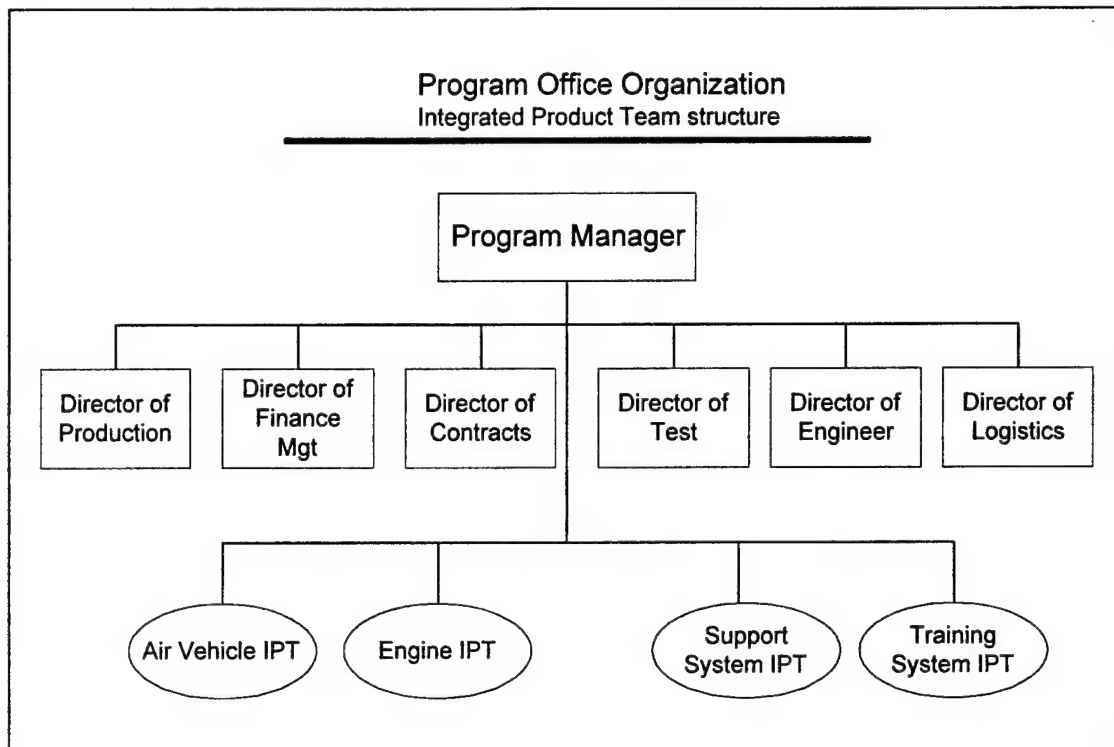
Figure 5. Program Office in IPT Organization Structure

Acquisition Workforce Education and Training. Following the enactment of the Defense Acquisition Workforce Improvement Act in 1990, the DoD created the Defense Acquisition University (DAU) as a consortium of 15 Army, Navy, Air Force, and Defense Logistics Agency schools and activities. The objective of DAU is to professionalize the acquisition workforce and improve business capability. As a consortium of defense schools, the DAU coordinates and tailors education and training to the needs of career personnel serving in DoD acquisition positions. It serves as the DoD

center for the development of education, training, research, and publication capabilities in the area of acquisition (Przemieniechi, 1993:351).

In the acquisition workforce, there are seven professional functions. These seven functions include program management; procurement and contracting; business, cost estimating, and financial management; auditing; production; acquisition logistics; and science and engineering. Each functional area consists of one to three position categories and their related career fields. Every functional area has three classifications of position which represent the basic, intermediate, and senior professional level. The detailed relationships among acquisition functions, position categories, and career fields are delineated in Table 2.

Based on these relationships, DAU courses are grouped by career field and divided into three career levels. The basic level, Level I, courses are designed to provide fundamental knowledge and establish primary qualification and expertise in the individual's career field, job series or functional area. At the intermediate level, Level II, specialization is emphasized. The courses at this level are designed to enhance acquisition personnel capabilities in the individual's primary capability or functional area.

Table 2. Relationships Among Acquisition Functions, Position Categories, and Career Fields

Function	Position Category	Career Field
Program Management	1. Program Management 2. Communications—Computer Systems 3. Program Management Oversight	Program Management Communications—Computer Systems
Procurement and Contracting	4. Contracting (including Construction) 5. Purchasing (Including Procurement Assistant) 6. Industrial Property Management	Contracting (including Construction) Purchasing (including Procurement Assistant) Industrial Property Management
Business, Cost Estimating, and Financial Management	7. Business, Cost Estimating, and Financial Management	Business, Cost Estimating, and Financial Management
Auditing	8. Auditing	Auditing
Production	9. Manufacturing and Production 10. Quality Assurance	Manufacturing and Production Quality Assurance
Acquisition Logistics	11. Acquisition Logistics	Acquisition Logistics
Science and Engineering	12. System Planing, Research, Development, and Engineering 13. Test and Evaluation Engineering	Systems Planning, Research, Development, and Engineering Test and Evaluation Engineering

At the senior level, Level III, acquisition training emphasizes management of the acquisition process and the latest methods being implemented in the career field or

functional area (Przemieniecki, 1993:355). Detailed information about each career field is shown in Appendix A.

According to <u>DoD Manual 5000.52M, Career Development Program for Acquisition Personnel</u>, education, training, and experience requirements are specified at the entry, intermediate, and senior levels for those position categories added by the statute. This manual establishes the framework for educational developments and the certification requirements of personnel in acquisition positions, from the basic to senior levels, required by the statute. These educational developments and certification requirements not only contribute to job promotion, but also improve professionalism (DoD, 1991: D). Detailed certification standards for each functional area are shown in Appendix B.

<u>Contracting Management</u>. Contracting is a service function that bridges the gap between user and provider. Contracting management requires expertise in many areas as well as the ability to research and apply sound business acumen to resolve complex issues. Because the contract is the key instrument that delineates responsibility of both parties to the contract—industry and government---the US acquisition system expends much effort dealing with contracting management. Like the acquisition cycle, contracting management also begins as early as possible in order to find the problem and meet the user's need. Several critical topics during the contracting management cycle include the procurement method, solicitation type, contract type, and contracting officers.

After the requirement has been determined, the contracting officer must decide the procurement method. There are three types of procurement methods: full and open competition, full and open competition after exclusion of sources, and other than full and open competition. For most of the government procurements, full and open competition is the major choice. In their book, Government Contract Guidebook, Arnavas and Ruberry state that since enactment of the Competition in Contracting Act of 1984, "full and open competition" has become the byword of all government procurement—a goal to be sought and achieved primarily through the use of sealed bidding and competitive proposals, the two basic methods of procurement (Arnavas and Ruberry, 1996:2-16). For some exceptional circumstances, the contracting officers can choose other than full and open competition type procurement to acquire the goods or services after approval from a higher level. These circumstances include sole source, urgent needs, national emergency, international agreement, law requirement, national security, and the public interest.

Another issue about the procurement method is the type of solicitation. After determining which procurement method will be used, the next step is to choose the type of solicitation. In other words, it is the discretion of the contracting officers to make a consideration between sealed bidding and competitive proposals. When using sealed bidding, the solicitation is called Invitation for Bid (IFB). On the other hand, when choosing the competitive proposal approach, the solicitation is called Request for Proposal (RFP). Solicitation selection depends on the procurement method, the contracting officer's consideration, and the characteristics of procurement. It is a critical

business judgment for a contracting officer. The relationship between the procurement

methods, procurement types, and solicitation types is shown in Table 3.

Table 3. The Relationship between Procurement Method, Procurement Type, and
Solicitation Type

Procurement Method	Full and Open Competition		Full and Open Competition after Exclusion of Sources		Other Than Full and Open Competition
Procurement Type	Sealed Bidding	Competitive Proposal	Sealed Bidding	Competitive Proposal	Competitive Proposal
Solicitation Type	IFB*	RFP**	IFB	RFP	RFP
*IFB: Invitation for Bid **RFP: Request for Proposal					

Another critical consideration for contracting officers comes in the choice of

contract type. A wide selection of contract types is available to the government and

contractors in order to provide needed flexibility in acquiring the large variety and

volume of supplies and services required by agencies. Contract types vary according to

(1) the degree and timing of the risk assumed by the contractors for the costs of

performance and (2) the amount and nature of the profit incentive offered to the

contractor for achieving or exceeding specified standards or goals (GSA, 1996:Part 16,1).

Because the choice of contract type will allocate the risk between the government and

contractor, contracting officers usually pay considerable attention to this decision.

The contract types are grouped into two broad categories: fixed-price contracts

and cost-reimbursement contracts. The specific contract types range from firm-fixed-

price, in which the contractor has full responsibility for the performance costs and

resulting profit or loss, to cost-plus-fixed-fee, in which the contractor has minimal

responsibility for the performance costs and the negotiated fee is fixed. In between are

the various incentive contracts, in which the contractor's responsibility for the

performance costs and the profit or fee incentives offered are tailored to the uncertainties

involved in contract performance. Selecting the contract type is generally a matter for

negotiation and requires the exercise of sound judgment. Negotiating the contract type

and negotiating prices are closely related and should be considered together. The

objective is to negotiate a contract type and price that will result in reasonable contract

risk and provide the contractor with the greatest incentive for efficient and economical

performance. A graphic chart illustrating the relationship between risk allocation and the

contract type is shown in Figure 6.

Risk Allocation	Government Risk					
	High---Low					
	Contractor Risk					
	Low---High					
Contract Type	Cost Contract	Cost Plus Fixed Fee Contract	Cost Plus Award Fee Contract	Cost Plus Incentive Fee Contract	Fixed Price Incentive Fee Contract	Firm Fixed Price Contract

Figure 6. The Contract Risk Continuum

In determining which contract type will be used, Peeters and Veld pointed out six

decision criteria in their articles, "The Use of Alternate Contract Types in Europe as

Protection Against Overruns," published in <u>National Contract Management Journal</u>,

Summer 1989. The six decision criteria are cost uncertainty, technology uncertainty,

extra resources, schedule, performance, and long-term motives considered (Peeters and

Veld, 1989:23-35).

Another critical role in contracting management is the contracting officer (CO).

According to FAR, the CO is the only one who has the authority to enter into, administer,

or terminate contracts and make related determinations and findings. The CO may bind

the government only to the extent of the authority delegated to him. No contract shall be

entered into unless the CO ensures that all requirements of law, executive orders,

regulations, and all other applicable procedures, including clearances and approvals, have

been met. Before committing the government to enter into a contract, the CO must

receive from the appointing authority clear instructions in writing regarding the limits of

their authority, a document called a warrant. The warrant establishes the legal capacity to

act for the government and specifies any bounds on it (Przemieniecki, 1993:168). The

CO is responsible for ensuring performance of all necessary actions for effective

contracting, ensuring compliance with the terms of the contract, and safeguarding the

interests of the government in its contractual relationships. In order to perform these

responsibilities, the CO should be allowed wide latitude to exercise business judgment

(GSA, 1996:Part 1, 22). Each CO must meet a high standard of knowledge, experience,

business acumen, and ethical behavior, because he or she is the official representative of

the Government to American and foreign firms (Przemieniecki, 1993:168).

The Republic of China Defense Acquisition system

Policies and Statutes. According to the Public Construction Council, a government organization, there are no laws which specifically address the entire government procurement in the ROC (PCC, 1996). As mentioned earlier, under the pressure of procurement reform and the requirement of joining the WTO, the ROC is drafting a new government statute which will govern future acquisition operations. Before the new procurement law, each government agency followed its own regulations or executive orders as ratified by the Executive Yaun (like the Executive Branch in the US) and reported to the Legislative Yaun (like the Congress in the US) for their future oversight. In the MoD, the governing regulation is the Military Procurement Operation Regulation (MPOR). This 500 page regulation has the same function as the DFAR system in the US. Because these rules are out dated and provide insufficient guidelines, their effect is limited (Tsai, 1997). The content of the regulation is shown in Table 4.

In addition to each agency's own regulations, all government agencies must follow the Audit Law, the Implementation Rules of the Law of Audit, and the Statutes for Inspection Procedures Governing Construction Works, Procurement of Products, and Disposal of Properties by Government Agencies. These three laws all emphasize mistake prevention and the post-event examining function. They do not provide fundamental guidelines for the procurement officers to do their job (Sun, 1993:40). Besides these three goods procurement statutes, there are no statutes about service procurement in the government procurement system (PCC, 1996:5).

Table 4. The Content of Military Procurement Operation Regulation

Section	Section

Part I General
    Chapter 1 Procurement Policy
    Chapter 2 Procurement System
    Chapter 3 Procurement Means
    Chapter 4 Organization and Duty
    Chapter 5 General Regulations
	Part V Special Procurement
	    Chapter 1 Small Purchase
	    Chapter 2 Bid by Mail
	    Chapter 3 Special Supply Contract
	    Chapter 4 Mock-up Procurement
	    Chapter 5 Emergency Procurement
	    Chapter 6 Classified Procurement
	    Chapter 7 Overseas Procurement
	    Chapter 8 Foreign Military Sale
	    Chapter 9 Labor Service Procurement

Part II Procurement Planning
    Chapter 1 General
    Chapter 2 Plan Content
    Chapter 3 Domestic Procurement Plan
    Chapter 4 Foreign Procurement Plan
    Chapter 5 Pre-procurement
	Part VI Procurement Management
	    Chapter 1 Coordination
	    Chapter 2 Supervision
	    Chapter 3 Management
	    Chapter 4 Administration

Part III Tendering and Contract Award
    Chapter 1 General
    Chapter 2 Plan Overview
    Chapter 3 Tendering Preparation
    Chapter 4 Open Tendering, Selected
        Tendering, or Single Tendering.
    Chapter 5 Contract Signature
    Chapter 6 Deposit and Tax-free
	Part VII Miscellaneous

Part IV Delivery and Evaluation
    Chapter 1 Transportation Insurance
    Chapter 2 Delivery
    Chapter 3 Performance Evaluation
    Chapter 4 Dispute Disposal
    Chapter 5 Payment and Clearance	

Acquisition Management Process. The defense acquisition process in the ROC is

divided into three phases. Before the acquisition begins, there is a Pre-phase Planning

Phase. During the Pre-phase Planning Phase, the activities focus on the mission need

analysis and budget plan. After Phase 0, an acquisition program begins, and the process
goes into Phase I. A detailed description of each Phase and activity is shown in Table 5.

Table 5. Defense Acquisition Process in ROC

Phase	Phase 0	Phase I	Phase II	Phase III
Title	Pre-phase Planning	Acquisition Planning	Contract Award	Performance Evaluation
Activities	1. Mission Need Analysis 2. Budget Plan	1. Appropriation 2. Need Determination 3. Procurement Channel Determination 4. Acquisition Consideration	1. Prepare Solicitation 2. Determine Procurement Method 3. Cost Analysis 4. Determine Ceiling Price 5. Contract Award	1. Control Contractor Performance 2. Evaluate the Performance 3. Payment and Clearance 4. Suggestion

During Phase I, the major activities include determining the need, requesting
appropriation, choosing the procurement channel, and deciding acquisition
considerations. In choosing the procurement channel, there are two channels to choose
from. One is normal procurement, and the other is special procurement. Normal
procurement follows the standard activities of the three-phase procurement, while special
procurement usually means small procurement, classified procurement, or FMS programs
which usually do not follow the three-phase procedure. In terms of acquisition
consideration, the major concerns include specification, quantity, budget, unit price,
delivery time, delivery place, buyer office, procurement location, transportation,

packaging, inspection, and payment. After the acquisition considerations have been set, the process goes into Phase II.

In Phase II, Contract Award Phase, the major activity is to award the contract. Before the contract award, the phase activities include selecting the tendering type, conducting cost analysis, estimating ceiling price, and preparing the solicitation. In choosing the tendering type, there are three types, which are open tendering, selected tendering, and single tendering. For contracts over NT $50 million (US $2 million), the open tendering type will be the only choice. For contracts between NT $50 million and NT $5 million, the open tendering and selected tendering methods can be chosen under certain legal criteria. When selective tendering is chosen, the procurement officer will select two or more responsible potential contractors for quotations. The single tendering procedure may be used in the case where the value of a proposed procurement falls below NT $5 million. In this case, only one supplier on the contractor list will be selected for quotation. To conduct the cost analysis, the government estimators will make use of the commercial catalogs and some information provided by contractors to establish an estimating price. As long as the ceiling price is decided, it becomes the only criterion to evaluate the contractor's bid. After the contract award, the acquisition process goes into Phase III.

In Phase III, the prime mission is to make sure the end items meet the requirements and payment has been credited to the contractor. Before contractors receive payment, performance evaluation must be done by the evaluation officers. Usually the evaluation procedure includes specification inspection, delivery check, and suggested

documentation. After these procedures, and if no other disputes have happened, the evaluation officers will close the contract and save the files into the data system (MoD, 1993:5-6).

Small Procurement. Procurements less than NT $2.5 million (US $100,000) belong to the small procurement category. The acquisition procedure for small procurement is the same as the three-phase process discussed above, except for those procurements less than NT $0.5 million. If the procurement dollar is less than NT $0.5 million, the procurement officers do not have to prepare an acquisition plan. The procurement officer can choose three tenders and ask them to provide a quotation. The lowest price will win the contract.

FMS. Most of the major weapon systems in the ROC are acquired by way of the FMS program. In the annual conference with the US representatives, the MoD officers will provide request for some specific weapon systems. Following the FMS procedure, if the request is approved by the US Congress, the ROC will be allowed to purchase these weapon systems. By FMS, however, the DoD acquisition officers will represent the ROC in performing most of the acquisition activities. The ROC officers are not allowed to be involved the acquisition process, especially contracting management. If Congress does not approve the request, the ROC will not have the opportunity to buy the weapon systems.

Acquisition Organization. The acquisition process mentioned above is the major framework for the structure of acquisition organization. In other words, the units in the

acquisition organization are consistent with the activities of the acquisition process. Thus, the organizational elements include an acquisition planning office, a contract award office, and a performance evaluation office. Each office in the acquisition organization will complete its phase mission and activities before proceeding to the next process. The organizational chart is shown in Figure 7.
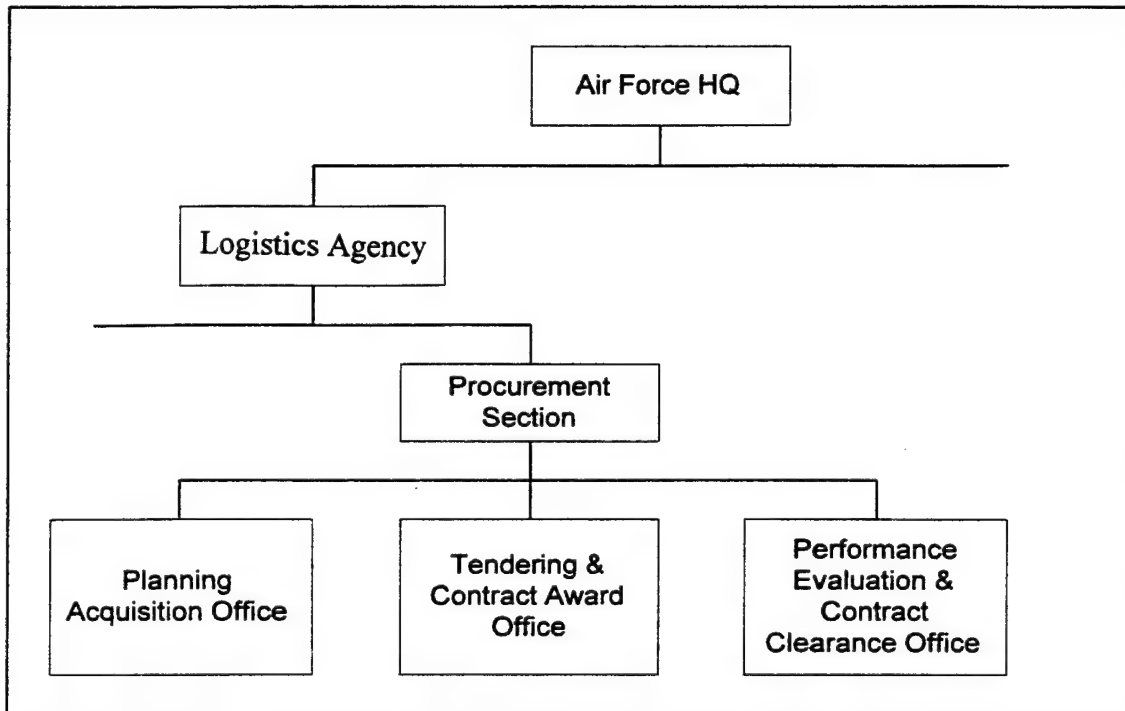
Figure 7. The Acquisition Organizational Chart in the Air Force of ROC

According to the MPOR, one important regulation is that those who conduct any activities in a specific phase are not allowed to be involved in other phase activities. For instance, the planning officer who writes the procurement plan and consideration in phase I is prohibited from being involved in the contracting activities in Phase II or performance evaluation in Phase III.

Besides this standard organization for defense acquisition, there is a special organization, built in 1992. Due to the requirement for second generation weapon systems, an ad hoc office was organized. This special organization office is called the Weapon System Acquisition Management Office (WSAMO). In each service, the WASMO plays a functional role to supervise the procurement of the major weapon systems from the FMS program or direct commercial purchasing. In order to monitor the specific program, several project teams under WSAMO were built to manage the related weapon systems. For instance, the Flying Dragon Project Team (FDPT) is the project team for the F-16 FMS program, and the Eagle Eye Project Team is the project team for the E-2T aircraft program. The major mission for each project team is to coordinate with the US DoD to make sure contract performance is under control. However, under the FMS program, the ROC is not allowed to participate several acquisition activities such as contracting management, pricing, cost analysis, negotiating, logistics support, and so forth. Therefore, most of the activities for each team focus on the follow-on documentation and report of program status. This information is provided by the US DoD officers.

According to Col. Tsai, the program manager of FDPT, after the second generation weapon systems are all deployed, the WSAMO will be dismissed, and most of the personnel in this organization will be reassigned to other organizations which have nothing to do with acquisition activities. The government does not consider it necessary to maintain an organization for weapon system acquisition. He also pointed out that it is a short-sighted decision for the ROC in acquisition policy (1997).

Acquisition Workforce Education and Training. Several authors have pointed out

the importance of acquisition workforce education and training. They believe that the

weak training system is the major contributor to the problems of the acquisition system

(Liu, 1995:27-29; Chen, 1993:11; Wang and others, 1996:22-24; and Kuo and others,

1996:20). In their article, Wang and others urged the government to pay more attention

to the training and education of the acquisition workforce. They also recommended that a

professionalism policy for the acquisition workforce be developed (Wang and others,

1996:23). Unlike the US acquisition professionalism which classifies the acquisition

workforce into program management, contracting management, logistics management,

test and evaluation specialist, system engineering management, auditor, cost analyst, and

production management, the acquisition workforce in ROC has only one title,

procurement officer. Under this concept, the objective of the training system for the

acquisition workforce is to make every trainee fill a multifunctional role. The ROC

government believes that acquisition is not sufficiently complex to warrant specialized

professional training. Therefore, all trained personnel are expected to do any activity

from the beginning until the end of the procurement process.

At present in the MoD, there is only one training program regarding procurement

management and one graduate degree education program for contracting management.

The procurement management program is provided in the National Defense Management

College (NDMC). The length of this program is 20 weeks. A detailed program

curriculum is shown in Table 6. From the table, it is easy to understand that the most

emphasis is put on the regulation, international trade, and law course, which comprise

51% of the program hours. No specific courses about the contracting management and cost analysis are in the curriculum.

Table 6. Course Curriculum for the ROC Procurement Management Program

Course Title	Percentage of Total Program Hour
Introduction to Integrated Logistics Support	2.2%
Military Procurement Operation Regulation	23.3%
Planning Programming & Budgeting System	2.7%
FMS	1.6%
Military Specification & Item Catalogue	2.2%
Military Acquisition Process Control	1.6%
International Trade	15.5%
Laws	13%
Quality Control	7.2%
Information Management	6.8%
Seminar in Procurement Management	5.9%
Project Exercise	18%

The other educational opportunity for the acquisition workforce is the contracting program. Opened in 1993, the contracting program is a graduate degree program provided in the Law school of NDMC. The length of this program is three years. Each student graduating from the program will be awarded a master's degree in law. The purpose of the contracting program is to provide military acquisition with a contracting management specialty. The ROC government regards contracting management as the activity involving legal issues. For this reason, the course design emphasizes the laws and regulations. There are no courses which specifically address the management skills required for acquisition management.

Contracting Management. According to Col. Tsa, the F-16 program manager, and Col. Yeh, the FMS liaison officer of ROC in USAF, there are no activities or concepts about contracting management like those of the US system in the ROC (Tsa, 1997; Yeh, 1996). Although there are few disciplines or guidelines about tendering and contract award in the Military Procurement Operation Regulation (MPOR), most of the contracting activities just follow previous contract files and the pre-designed contract format with the fixed clauses and conditions. There are no detailed guidelines for contracting management in the MPOR.

In terms of contract type, the fixed price type contract is the only type contract used in the ROC. Two options in the fixed price contract type are the firm-fixed-price contract and the fixed price with economic adjustment. The firm-fixed-price contract is the most commonly used in ROC procurement. In very few situations, with the approval from the higher level, the fixed price with economic adjustment contract can become another choice (MoD, 1993:125). Because there is little choice about contract type, negotiations between the ROC government officials and contractors are rare.

According to the award criteria in Government Procurement Systems, published by the Public Construction Commission, contracts will be awarded to the responsible tender based on two criteria: the lowest price and government estimate. The tender which offers lowest price under the government estimate will be awarded the contract (PCC, 1996:4). This so called ceiling price system contributes greatly to the acquisition scandals and public debate in the current acquisition system (Su, 1993:4). Because of the ceiling price system, the procurement method used in the ROC is only a sealed bid

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procedure. In all tendering systems, the sealed bids provided by the potential contractors will determine the award of the contract. For this reason, the acquisition workforce is also weak in the capability of cost analysis because they don't have to negotiate with the contractor about their price and costs (Su, 1993:4).

Another critical issue is the contracting officer. The ROC regards contracting management as dealing with legal issues; therefore, most of the contracts are signed by the lawyers or the program managers. For lawyers to sign the contracts, the government has to pay the legal fee for their consultants, while for the program mangers to sign the contract, the government also pays the service fee to the lawyers for their review of the contract draft. A good example is the procurement program for MIRAGE 2000. Because the MoD does not have contracting management specialists, the MIRAGE program has to contract with an international legal company in order to help the MoD deal with the contracting administration. Of course this costs lot of the taxpayers' money.

Summary

In this chapter, current research about acquisition management was reviewed, although there are only few articles about government procurement in the ROC. Most of the researchers discussed all believe that there are some defects in the government acquisition system in the ROC. Although some of the problems concerning defense acquisition management have been presented, there are no specific actions suggested by the researchers. This chapter also introduced defense acquisition management in the ROC and the US. In the next chapter, the methodology for this study will be discussed.

III. Methodology

Overview

The purpose of this chapter is to describe the methodology that will be used to answer the three investigative questions outlined in Chapter I. The following sections include Research Classification, Data Collection, Measuring Instruments, Analysis Indicators, and Research Validity. Each segment of the following sections will explain the rationale and logic used to conduct this research.

Research Classification

The nature of this research is a qualitative study. The fundamental method is the case study approach. In a case study, the researcher usually observes and analyzes the subjects such as one person, one group, one family, one classroom, or one town. Similarly, this study focuses on one nation, the Republic of China. Consequently, major attention has been placed on the functions and activities of defense acquisition management in the ROC. The primary purpose of this research is to explore the status quo of the subject, identify shortcomings of the subject, and provide recommendations for improving defense acquisition management in the ROC. In exploring the status quo of defense acquisition management, this research adopts the method of exploratory case study, and the aim of this case study is the description of defense acquisition management in the ROC. Specifically, this study tries to answer "what is going on" with defense

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acquisition management in the ROC.   A Handbook of Social Science Research describes

exploratory study as follows:

> When a case study is an exploratory study, one of the purposes of the
> research may be to ascertain the relevant variables for a particular area of
> study. An exploratory study takes a very broad look at the phenomenon
> under study. Attention is not as focused as in a study to test a hypothesis.
> The purpose is to gather information, so that a description of what is going
> on can be made. (Bouma and Atkinson, 1995:110)

Besides the description of the subject, another goal for this study is to identify the

shortcomings of defense acquisition management in the ROC. After describing the

current situation of the defense acquisition management in the ROC, this study will

compare the ROC's defense acquisition management with the US system. The

comparative results will reveal the defects which cause the problems in the acquisition

activities. Finally, with the results of comparative analysis, this study will provide

recommendations for future acquisition reform in the ROC.

Data Collection

The major focus of this study is defense acquisition management. Theoretically,

for a case study, the subject's behaviors or activities will be observed and recorded to

become the data for analysis. Accordingly, all activities about acquisition management in

the defense area can be the data resources for this study. However, there are thousands of

individual management activities which simultaneously occur during the acquisition

process. It is difficult to record or observe all the activities in the acquisition life cycle.

Because this is an exploratory case study, the major effort is to take a broad look at the

phenomenon of defense acquisition management. To that aim, government documents

are the major sources of information for this study. Nevertheless, some specific areas of data, such as the activities of contracting management, which cannot be found in the government documents are collected by interviewing the experts in the defense acquisition arena. In addition, the journal articles and conference proceedings are used to provide further scientific clarity.

Analysis Indicators

To explore and analyze defense acquisition management in the ROC, this study will choose some analysis indicators among these activities. Theoretically, the management functions include planning, organizing, staffing or leading, and controlling (Longenecker & Pringle, 1981:23-38; Griffin, 1990:8-12). Based on these principle functions of management, five functional activities of defense acquisition have been chosen as the analysis indicators. These five indicators will be used to describe the current situation of defense acquisition management in the ROC. In addition, these five indicators will serve as the analysis factors to compare against US defense acquisition management. These five indicators are

      (1) policy and statutes,

      (2) acquisition process,

      (3) acquisition workforce training system,

      (4) acquisition organization, and

      (5) contracting management.

This study believes that these five indicators can be regarded as the attributes of the management functions. The policy and statutes area is the fundamental premise for the management planning and controlling function within the acquisition life cycle. Similarly, because the acquisition process always gives the guidelines for planning and controlling during the acquisition life cycle, the indicator of the acquisition process is chosen as another indicator for analyzing the planning and controlling fuction. The staffing or leading function can be tracked by examining the education or training systems of the workforce. Therefore, workforce training is one of the study areas. The indicator of acquisition organization shows how the management organizing function works. Finally, in terms of the contracting management indicator, because the procurement contract for goods and services is the heart of the acquisition process (Schmoll, 1996:57), it might be good to separate these dimensions of acquisition when analyzing this phenomenon.

Measuring Instrument

The discipline of the research process requires not only clear and focused thinking, but also careful and reliable measuring of the variables under investigation. This study is both exploratory and analytical. Therefore, the approach to the evaluation of the analysis indicators is an important part of the methodology of the study. Unfortunately, in the social and behavior sciences, no truly standardized measures and scales have been developed. To solve this problem, Bouma and Atkinson have suggested that a great deal of creativity is demanded and permitted (Bouma and Atkinson, 1995:68).

The major theme for this study is defense acquisition management, and the four managerial functions are the fundamental variables for describing or analyzing the status quo of the acquisition management system in the ROC. It is easy to find text books and theoretical standards on the four managerial functions of planning, organizing, staffing or leading, and controlling. However, it is not so easy to define the standards for the four functions of acquisition management, particularly for the defense acquisition system. One reason is because there are no universal principles and standards on how to do acquisition management. Another reason might be the different definitions and contents of acquisition. Thus, this study believes looking at the major trends in acquisition management in the world is the best choice of measurement. Specifically, at this moment, the ROC is facing the challenge to become a global member in the WTO. The global practice of acquisition is reasonable and reliable because the AGP code outlines the practices of the majority of the WTO members; if the ROC hopes to become a WTO member, it will have to adopt these standards.

As described in the previous chapters, the acquisition practices in the US are reflective of the major trends in the world of acquisition, and most of the AGP code has the same standards as the US acquisition regulations. In addition, US acquisition history represents a good reference for the ROC to tailor the acquisition system and guide national acquisition reform. Therefore, this study believes that the US acquisition management system is the best choice for measuring the variables.

When evaluating these four managerial functions, the big challenge is the choice of instruments. Thousands of activities make up the acquisition process. Although it

might be possible to classify the entirety of these activities into these four managerial functions, it is impossible for this study to analyze all the activities which occur during the acquisition life cycle. Again, this study believes that the five analysis indicators represent the fundamental activities for the acquisition management. Therefore, the same five indicators from the US system are the measuring instruments for this study. Based on these approaches, this study compares the activities which have the same functions between different countries may allow for valuable insights into the shortcomings of defense acquisition management in the ROC.

Study Validation

Validity is an issue concerned with how accurately a variable represents the concept. Accordingly, in this study, the problem of validity centers on how well the four managerial functions represent management and how well the five indicators represent acquisition management. Table 7 shows the logical thinking of this study and also provides the rationale of research validity in selecting these five indicators.

Table 7. The Logic Thinking of Study Validity

Concept	Variables	Indicators	Results
Defense Acquisition Management	• Planning • Organizing • Staffing or Leading • Controlling	• Policy & Statute • Acquisition Process • Acquisition Workforce Training System • Acquisition Organization • Contracting Management	Description Analysis Recommendation

To examine the defense acquisition management in the ROC, four theoretical management functions are the research variables. As shown in the above table, these four

functions include planning, organizing, staffing or leading, and controlling. Although there are several different arguments about the functions of management, these four functions are ones the frequently used in text books and by researchers.

With these four variables, it is impossible to answer the investigative questions because these four functional areas consist of thousands of hundreds of activities in the acquisition arena. In order to broadly describe the real status of these four functions in the acquisition life cycle, five indicators are selected to be the fundamental reflection for the entire acquisition management. By describing these five indicators' activities, this study will provide the answer to the first investigative question.

- Investigative question 1.

What is the current status of defense acquisition management in the ROC?

Moreover, using the measuring instruments, the acquisition model of the US, to examine the acquisition management in the ROC, the result will also provide the answer to the second investigative question.

- Investigative question 2.

Compared with the US system, what are the defects in defense acquisition management in the ROC?

Finally, using the US system as a standard and defects found in the second investigative question, the results of the comparison are used to answer the third investigative question.

- Investigative question 3.

What recommendations can be made in order to eliminate the defects in defense acquisition management in the ROC?

The results from these three investigative questions present a description of the concept, analysis of the concept, and recommendations to the concept. By this logic procedure and rationale thinking, this study should comply with the standard of research validity.

Summary

The major purpose of this chapter has been to describe how the research has been conducted. The rationale and logic used in the study are described above. The Research Classification identified the nature of this study. The Data section described the resources used for analysis and how they were collected. Following the data collection, the Measurement Instrument section explained how those data were used, and the Analysis Indicator described what variables were selected in the analysis and why they were selected. Finally, the section on Study Validation summarized the overall rationale of the relationship among the research objective and the selected variables and analysis indicators. This chapter provided the blueprint for the methodology to be utilized in the research. The following chapter will summarize the research findings and results.

IV. Results

Overview

The purpose of this chapter is to present the results of the study as outlined in Chapter I. These results were obtained by implementing the methodology described in Chapter III. The following sections are arranged according to the five analysis indicators which are (1) policy and statute, (2) acquisition process, (3) acquisition workforce training system, (4) acquisition organization, and (5) contracting management. The presentation of the research results for each section includes the description of status quo of each indicator in the defense acquisition of the ROC, the comparative analysis between the management systems in the ROC and the US, and the result findings based on the previous analysis. Based on its functional characteristic in management, each indicator is measured by the US system.

Policy and Statute

The policies and statutes direct the government agencies to plan, organize, and control their administrations. Policies and statutes provide the best guideline to show how the ROC plans and controls their defense acquisition management.

The Status Quo in the ROC. The only statute guiding defense acquisition is the Military Procurement Operation Regulation (MPOR). Unlike the FAR system in the US, which directs entire government agencies in the acquisition, the MPOR is a defense-only regulation which guides military procurement. At present, the MPOR is the only existing

regulation on defense procurement in the ROC. Revised in 1993, the MPOR contains

seven chapters. The Chapter 1 briefly describes the military procurement policy,

procurement system, procurement channels and the responsibility of procurement

organizations. The following three chapters, Chapters 2, 3 and 4, illustrate the details of

three procurement processes, which are procurement planning, contract awarding, and

performance evaluating. Chapter 5 describes special procurements such as small

purchasing, FMS, classified procurement and so forth. Chapter 6 briefly depicts

procurement management. Finally Chapter 7 covers miscellaneous topics in

procurement. In addition, after Chapter 7 are 19 appendixes which cover the related

regulations in government procurement. These appendixes include tax deduction, audit

regulations, credit letter operation, import procedure, and so forth. Although the ROC

government is undertaking the draft of new procurement statute, the MPOR will maintain

its Bible position in the defense acquisition arena until the new law comes into effect.

Comparative Analysis. With decades experience in acquisition, the US

government has collected many lessons learned and efficient practices to perform public

acquisition. This source of knowledge and experience is the foundation of the complete

and sound acquisition policies and statutes found in the US. These policies, statutes,

practices, and knowledge may provide directions for the ROC's acquisition reform. The

following tables will indicate the difference between these two systems. Table 8 is a

comparison of the acquisition regulations in the ROC and the US. This table shows how

much effort the ROC government has made to establish legislation in government

procurement. Table 9 is a comparative analysis of the regulation contents between the

MPOR and the FAR. This analysis table illustrates the difference in procurement objectives and rules of these two countries. Finally, Table 10 addresses the different acquisition reform actions taken by the US and the ROC.

Table 8. The Acquisition Policy and Statute in the US and the ROC

Policies or Statutes	the US government	the ROC government
The Law	- Small Business Act - Competition in Contract Act - Office of Federal Procurement Policy (OFPP) Act - DoD Procurement Reform Act - Federal Acquisition Streamlining Act - Title 10, United States Code	the Audit Law
Executive Direction	- OMB* Circulars - OFPP Policy Letters - Executive Orders	N/A
Regulation	- Federal Acquisition Regulation - Defense FAR - Air Force FAR Supplement - Army FAR Supplement - Defense Logistics Agency FAR Supplement	Military Procurement Operation Regulation
Directives and Instructions	- DoD Directives 5000 Series - DoD Instruction 5000 Series - Other relative Directive or Instructions Series	N/A

Table 9. The Comparative Analysis Between the FAR and the MPOR

the FAR (US)	the MPOR (ROC)	Comparative analysis
Subchapter A 1. Federal Acquisition Regulation System 2. Definitions of Words and Terms 3. Improper Business Practices and Personal Conflict of Interest 4. Administrative Matters	Chapter 1- General 1. Military Procurement Policy 2. Military Procurement System 3. Military Procurement Channels 4. Military Procurement Organization and Responsibility	• No national procurement regulation system like FAR system in the ROC • No specific content about the improper procurement practices and personal conflict issue in the MPOR
Subchapter B 1. Publicizing Contract Actions 2. Competition Requirements 3. Acquisition Planning 4. Required Sources of Supplies and Services 5. Contractor Qualifications 6. Specifications, Standards, and Other Purchase Descriptions 7. Acquisition and Distribution of Commercial Products 8. Contract Delivery or Performance	Chapter 2—Procurement Planning 1. Plan Formation 2. Domestic Procurement Planning 3. Foreign Procurement Planning 4. Preparation for Procurement	In the MPOR: • No specific regulation about competition • No regulations about the contractor qualifications • No detailed description about the specifications and standards • No detailed information about the contract delivery and performance • No information about required sources of supplies and service
Subchapter C 1. Small Purchase and Other Simplified Purchase Procedures 2. Sealed Bidding 3. Contracting by Negotiation 4. Types of Contracts 5. Special Contracting Methods	Chapter 3—Contract Award 1. Procurement Approval 2. Tendering 3. Sealed, Comparative, or Negotiated Bidding 4. Contract Award 5. Foreign Exchange and Taxation	• No contracting method like negotiation in the MPOR. • No detailed regulations about types of contracts in the MPOR. • No special contracting methods described in the MPOR

Table 9. The Comparative Analysis Between the FAR and the MPOR (con't)

the FAR (US)	the MPOR (ROC)	Comparative analysis
Subchapter D— Socioeconomic Programs 1. Small Business and Small Disadvantaged Business Concerns 2. Labor Surplus Area Concerns 3. Application of Labor Laws to Government Acquisition 4. Environment, Conservation, Occupational Safety, and Drug-Free Workplace 5. Protection of Privacy and Freedom of Information 6. Foreign Acquisition 7. Other Socioeconomic Program	N/A	• No socioeconomic programs in the MPOR.
Subchapter E—General Contracting Requirements 1. Patents, Data, and Copyrights 2. Bonds and Insurance 3. Taxes 4. Cost Accounting Standards 5. Contract Cost Principles and Procedures 6. Contract Financing 7. Protests, Disputes, and Appeals	N/A	• No regulation in the MPOR dealing with the patents, data, and copyrights. • No cost accounting standards in the MPOR • No contract cost principles and procedures • No contracting financing in the MPOR

Table 9. The Comparative Analysis Between the FAR and the MPOR (con't)

the FAR (US)	the MPOR (ROC)	Comparative analysis
Subchapter F—Special Categories of Contracting 1. Major System Acquisition 2. Research and Development Contracting 3. Service Contracting 4. Federal Supply Schedule (FSS) Contracting 5. Acquisition of Information Resources	Chapter 5—Special Procurement 1. Small Procurement 2. Mailing Bidder 3. FMS 4. Classified Procurement 5. Contingent Procurement	• No service contract regulation in the MPOR. • No national supply contracting like the FSS. • No regulation about the acquisition of information resources
Subchapter G—Contract Management 1. Contract Administration 2. Contract Modification 3. Subcontract Policies and Procedures 4. Government Property 5. Quality Assurance 6. Transportation 7. Value Engineering 8. Termination of Contracts 9. Extraordinary Contract Actions 10. Use of Government Sources by Contractors	Chapter 4—Performance Evaluation 1. Transportation Insurance 2. Delivery 3. Evaluation 4. Disputes 5. Payments and Contract Clearance	• No guideline about the contract administration • No guideline about the contracting modification • No regulation dealing with subcontract policies and procedures • No guideline about the contract termination • No guidelines about extraordinary contract action • No regulation about use of government sources by contractors • No regulation about value engineering
Subchapter H—Clauses and Forms 1. Solicitation Provisions and Contract Clauses 2. Forms	N/A	• No provisions or clauses provided by the MPOR.

Table 10: The Analysis of the Reform Actions Between the US and the ROC

The US Acquisition Reform	The ROC Acquisition Reform
- Acquisition Process - Contracting Administration - Workforce Training and Education - Logistics Support - Electronic Commerce/Electronic Data Interchange in Contracting Process - Military Specification and Standard Reform - System Acquisition Oversight and Review Process	New law draft

Findings. There are several findings from the above comparative analysis tables.

1. The ROC does not have a procurement policy office. Consequently, there are not enough policies and statutes to guide government procurement in the ROC. Although the government of the ROC is drafting a new law, the lack of policy office like the US' OFPP hurts the ROC's ability to handle complex acquisition policy making. Especially for the coming WTO members who must evaluate the ROC's ability to analyze the procurement markets, a government agency to deal with these international issues might reduce the potential problems in the government procurements of major systems.

2. Limited objectives for government procurement in the ROC government: One of the most important aims for the government procurement is to create socioeconomic programs. By way of these programs, businesses which are disadvantaged can be protected by the government. However, there are no regulations dealing with socioeconomic programs in the procurement policy of the ROC.

3. Lack of direction for contracting management: Contracting management is the central role of government procurement. The varied contract types and contracting methods provide advance techniques and channels to meet government procurement goals. It seems that the ROC government does not have a deep understanding of contracting management.

4. Few policies on acquisition reform: Unlike US acquisition reform, the only action taken for acquisition reform in the ROC is the draft of the new procurement statute. There is no reform concerned with the acquisition process, workforce training system, career development, contracting management, logistics support, and so forth. A significant change in policy which relates to the concept of reform is needed. Without changing the previous concept about acquisition, current acquisition problems may not be solved.

Acquisition Process

Like the policies and statues, the acquisition process also provides guidelines for the procurement personnel doing their jobs. From the management perspective, the acquisition process gives the acquisition workforce a blueprint to plan and control acquisition activities. A logical acquisition process not only improves administration efficiency, but can also reduce possible problems such as cost overrun, schedule slip, lower quality, and so forth. Moreover, a sound acquisition process is fundamental if one wishes to reach government procurement goals.

The Acquisition Process in the ROC. The defense acquisition process in the ROC is divided into three phases. These three phases include Acquisition Planning, Contract Award, and Performance Evaluation. Before acquisition begins, there is a Pre-phase Planning Phase. In the Pre-phase Planning Phase, the activities focus on the mission need analysis and budget plan. After Phase 0 approval, an acquisition program begins, and the process goes into Phase I. A detailed description of each Phase and activity is shown in Table 11.

Table 11. Defense Acquisition Process in the ROC

Phase	Phase 0	Phase I	Phase II	Phase III
Title	Pre-phase Planning	Acquisition Planning	Contract Award	Performance Evaluation
Activities	• Mission Need Analysis • Budget Plan	• Appropriation Application • Need Determination • Procurement Channel Determination • Acquisition Consideration	• Prepare Solicitation • Determine Procurement Method • Cost Analysis • Determine Ceiling Price • Contract Award	• Control Contractor Performance • Evaluate the Performance • Payment and Clearance • Suggestion

During Phase I, the major activities include determining the need, requesting appropriation, choosing the procurement channel, and deciding the acquisition considerations. In choosing the procurement channel, there are two channels to choose from. One is normal procurement, and the other is special procurement. Normal procurement follows the standard activities of the three-phase procurement, while special

procurement usually means small procurement, classified procurement, or FMS programs which do not have to follow the three phase procedure. In acquisition, major concerns include specification, quantity, budget, unit price, delivery time, delivery place, buyer office, procurement location, transportation, packaging, inspection, and payment. After the acquisition considerations have been set, the process goes into Phase II.

In Phase II, Contract Award Phase, the major activity is to award the contract. Before the contract award, the program procedure includes selecting the tendering type, conducting cost analysis, estimating ceiling price, and preparing the solicitation. In choosing the tendering type, there are three types, which are open tendering, selected tendering, and single tendering. For contracts over NT $50 million (US $2 million), the open tendering type is the only choice. For contracts between NT $50 million and NT $5 million, the open tendering and selected tendering methods can be chosen under certain legal criteria. When using the selective tendering method, the procurement officer will select two or more responsible potential contractors for quotations. Without any discussion, the contract will be awarded to the lowest quotation. On the other hand, the single tendering procedure may be used in the case where the value of a proposed procurement falls below NT $5 million. In this case, only one supplier on the contractor list will be selected for quotation and awarded the contract.

To conduct the cost analysis, the government estimators make use of commercial catalogs and some information provided by contractors to establish an estimating price which finally becomes the ceiling price for this acquisition. As long as the ceiling price

is decided, it becomes the only criterion to award the contract. After the contract award, the acquisition process goes into the Phase III.

In Phase III, the prime mission is to make sure the end items meet the requirements and payment has been credited to the contractor. Before the contractor receives payment, performance evaluation must be done by the evaluation officers. After the performance evaluation, and if no other disputes have happened, the evaluation officers will close the contract and save the files into the data system (MoD, 1993:5-6).

Procurements less than NT $2.5 million (US $100,000) belong to the small procurement category. The acquisition procedure for small procurement is the same as the three phase process discussed above, except for those procurements less than NT $0.5 million. If the procurement dollar is less than NT $0.5 million, the procurement officers do not have to prepare the acquisition plan. The procurement officer can choose three tenders and ask them to provide a quotation. The lowest price will win the contract.

For the major weapon systems, the ROC used the FMS program for acquisition. In the annual conference with the US representatives, the MoD officers will provide the request for some specific weapon systems. Following on the FMS procedure, if the request is approved by the US Congress, the ROC will be allowed to purchase these weapon systems. By FMS, however, the DoD acquisition officers will represent the ROC in performing most of the acquisition activities. The ROC officers are not allowed to be involved the acquisition process, especially contracting management. If the Congress does not approve the request, the ROC will not have the opportunity to buy the weapon systems.

Comparative Analysis. Unlike the US acquisition process, which includes four phases, the ROC has only three phases in the acquisition procedure. Even though the ROC and the US use the same terms, "Phases," to describe their acquisition process, there are still tremendous differences between the two acquisition procedures. The following two tables show the most significant differences in the philosophy of process division and procedure in different procurement levels.

Table 12. The Philosophy for the Acquisition Process Between the US and the ROC

Difference	the US four Phases process	the ROC three Phases process
Acquisition Sources	- Commercial Items - Non-development Items - Development Items - New Concept Items	- Commercial Items - Foreign Weapon Systems
Process Principle	Process Divided by the product life cycle	Process divided by the activities of "buying"
Procurement Activities	- each phase has at least one procurement activity cycle (acquisition planning, solicitation, contracting, performance, clearance, and so forth) - From cradle to grave policy	- three phases complete one procurement activities - No life cycle concept
Process Duration	12-79 Year (for major weapon systems) - Couple minutes (for credit purchase items)	3-7 Months
Decision Point	Each Phase has its own decision point	No decision point among each phase
Process Connection	- the Integrated Product Team for the entire processes - Free communication among the team members or different processes	- No personnel can overlap more than one phases - Few connection between the processes

Table 13. The Different Acquisition Process Between the US and the ROC

Acquisition Magnitude	the US Process	the ROC Process
Major Weapon Systems	• four phases with life cycle consideration • IPTs team-work environment • different phases require different functional specialists	• If FMS, the process has no interface with contractor • One phase covers Production and Deployment activities • Little involvement into the procurement activities if using FMS • If indigenous development, little business specialists involving into the process
Commercial Items	• Tailored one or two phases with life-cycle concept • Prolific strategies on solicitation methods and contract types.	• Little competition • Limited strategy on tendering methods and contract types
Small Purchasing and Simplified Acquisition Procedure	• Prolific strategies on solicitation methods and contract types • Using FACNET, BPA, oral solicitation, • For micro-purchase, using government credit card, government procurement checks, or FACNET	• Limited strategy on tendering methods and contract types • Little competition

Findings.

1. No life cycle concept in the acquisition process: Because the acquisition process is

divided by the "buying" action, there is little concern for life cycle. Moreover,

because each phase only focuses on its own mission, some important issues may be

ignored. For example, the acquisition plan phase may ignore the spare parts and other logistics issues, or the performance schedule may not be addressed until the contract award phase.

2. Limited acquisition resources: Without an investment in research and development acquisition, the ROC always seeks commercial products when acquisition occurs. The limited acquisition resources reduces the number of potential sellers. Further, it precludes the opportunity to upgrade the domestic industry. Especially for the major weapon systems, the FMS program has left the ROC government without any option but to wait for the US Congress's decision.

3. Limited flexibility on the acquisition process: For the major weapon systems, the FMS program restricts the application resources to commercial purchasing. For small purchasing, the tendering process and contract type also restrict the flexible acquisition choice.

4. Limited concept about the acquisition: The government in the ROC believes the acquisition process is a single action of procurement. From the division of the acquisition process, it is clear that the entire acquisition process consists of "Buying." Without the concept of acquisition including research, concept study, engineering development, production and employment, and disposal or demilitarization, the procurement in the ROC may miss some important issues.

Acquisition Organization

An acquisition organization is a medium for carrying out the acquisition plan and striving for the objectives. The acquisition aims cannot be achieved without a well organized acquisition team. The organization can be classified into several types by its structure. These classifications include process oriented type, product oriented type, matrix type, project type, functional type, and so forth. The following section will address the current acquisition organization in the ROC.

The Procurement Organization in the ROC. The current procurement organizations only exist in the Headquarters of each Service and the MoD components. Unlike the US system, which has the operational level of acquisition organizations in the bases or posts, the Armed Forces in the ROC does not have any formal organization for operational acquisition activities. The lower level commands or units which do not have any acquisition organizations always designate the logistics staff or administrative staff to do the acquisition job. Because of the lack of acquisition organizations, the fairness, openness, and competition of acquisition in the lower level is always a critical question.

The procurement organization in each Headquarters of the Service is called the Procurement Section. Three process-oriented offices make up the organizational structure of the Procurement Section. These three offices are the Acquisition Planning Office, the Contract Award Office, and the Performance Office. Because of the

characteristics of the process-oriented structure, each office only focuses on its process

ends, and its personnel are not allowed to be involved with another office's activities.

The organizational chart of the Procurement Section is shown in Figure 7.

For the MoD level-- except the Defense Materiel Bureau (DMB), which is the

MoD acquisition headquarters--there is no formal acquisition organization in the MoD

components. Usually the acquisition teams in the components are temporary type

organizations. For example, the procurement office in the National Defense Management

College is an ad hoc organization. The officers working in this office are just on

temporary assignments. After two months, these officers will return to their original jobs,

and some officers from the other units will take over the jobs for the next two months.

Established in 1995, the DMB is the highest procurement organization in the

MoD. The primary objective of the DMB is to acquire major systems and multi-service

materiel. The organizational structure of the DMB is similar to the Procurement Section

in each Service. Therefore, the same problems those occuring in the Procurement Section

may happen in the DMB.

Comparative Analysis. Compared with the US acquisition system, there is

tremendous difference in the ROC acquisition organization. Table 14 shows the

differences between these two systems from an organizational perspective.

Table 14. The Comparison of Acquisition Organization Between the US and the ROC

Difference	the US system	the ROC system
Organization Structure	- Matrix type organization - Integrated Product Team organizations	- Process-oriented organization - Temporary organization
Organization Level	- System level acquisition team in higher command or Service - Operational level acquisition team in the bases or posts - Working-level IPTs - Program IPTs	- No formal acquisition organization in the operational level and the MoD components level - Only Service Headquarters and DMB have formal procurement organizations
Supervision Organizations	- Defense Acquisition Board - Milestones Decision Authority - Source Selection Team - Overarching IPTs	- Office director - Section header - Agency Commander - Commanders
Dispute Settlement Organization	Boards of Contract Appeals	N/A

Findings.

1. No acquisition organizations in the operational level: Although most of the

   acquisitions in the lower level are small purchasing cases, the lack of the

   organizations can result in serious ethical problems. Moreover, by designating the

   logistics officers or administration staff to do acquisition jobs, one may hinder the

   acquisition process, precluding openness, fairness and competition. The acquisition

   positions in the lower or operational level should be one part of the acquisition career.

Without the lower level acquisition officers who have experience, the acquisition career development will lack fundamental support.

2. Lack of team work in the acquisition organization: The process structure means each office of the Procurement Section only strives for its objectives. For example, the personnel in the acquisition planning office do not consider what contracting strategy will be used. The contract award office does not pay attention to the disputes which might arise during the performance. Without team work, each phase may encounter several problems which can be prevented by employing team work.

3. No dispute settlement organization: Because the contracting administration regards the legal issues in the ROC, as long as there are any contract disputes, the government always designates the legal officer or private attorney representing the government to settle the disputes. Unlike the Agency Boards of Contract Appeals in the US system, the contractors always file their claims to the court in the ROC.

Acquisition Workforce Training Systems

The education and training of personnel is a significant contributor to the achievement of management objectives. For a complex task like acquisition, well trained personnel can reduce the probability of mistakes and increase administrative efficiency. A sound and well planned training system provides the workforce with a chance to acquire the required skills and gives personnel a big picture about their career development. Without the involvement of skilled personnel, a perfect acquisition plan cannot achieve its final goals.

The Acquisition Training System in the ROC. As mentioned in Chapter II, most of the training systems for the defense acquisition workforce are under the control of the NDMC. Because there is no professionalism policy about the acquisition workforce, all of the trainees graduating from the NDMC are titled "procurement officer." The trained procurement officers are regarded as qualified procurement specialists who have all the required skills, like the professionals in the US, to do their jobs. Those skills include the ability in planning acquisition, contracting management, cost analysis, logistics support, legal issues, international trade, and so forth. To achieve this objective, the training curriculum includes most of the professional techniques as classified in the US professionalism system. However, due to this considerable objective of acquisition training which expects that the trainees will possess all of the functional skills, it is hard to reach deep study in each functional capability. In short, the lack of acquisition professionalism results in the unsystematic training policy, and the result of the training does not generate much respect in the MoD.

Previous researchers have pointed out that workforce training is a significant issue for the ROC reform of the acquisition system. In MoD, however, due to the lack of qualified instructors, training equipment, educational budget and, the most important issue, the concept of professionalism, training reform has yet started. If the ROC government still believes that acquisition is so simple that trained personnel can cover all of the functional activities, then the goal for acquisition reform will never be achieved.

Comparative Analysis. The following tables will display the comparison results between the two training systems in the US and the ROC.

Table 15. The Comparison of the Training Systems in the US and the ROC

Difference	the US system	the ROC system
Training Objective	• The specialist with a specific functional capability	• The personnel with all functional specialty
Professionalism Degree	• Program management • Procurement specialist • contracting management • Industrial property management • Cost analyst • Financial management • Auditing • Manufacturing and production management • Quality assurance • Acquisition logistics • System engineering • Test and evaluation engineering	• Procurement officers • Contracting officers (legal issue consultant)
Certification Program	• Professional specialist • Three levels certificate	N/A
Training Duration	• 2-5weeks for each level course	• 20 weeks for procurement management course • 3 years for contracting specialist course
Training Classification	• Basic level • Intermediate level • Advance level	• one level (Regulation Class program)
Training Material	• Only functional techniques and document	• All functional material

Findings.

1. Lack of professionalism: In the ROC, the procurement officer is expected to be aware of the required aspects of an acquisition. However, the acquisition is so complex that

it is impossible for one person to acquire all of the skills needed for doing the acquisition job. Several researchers have stressed the importance of professionalism for the acquisition workforce (Kuo and others, 1996:20). With the 20 weeks in training and expectation that the trainees will process the entire capabilities, it seems a little unrealistic.

2. Weak training system: From the current training opportunity in the ROC, the acquisition workforce has only one choice (the contracting education program is legal consultant orientation which does not focus on participation in the acquisition activities, but rather an giving advice). For complex activities like acquisition, one choice of training program is not enough for the acquisition workforce, particularly if true professionalism is desired. Each functional job should have its own training opportunities. Another important issue for the training system is career training opportunities. Currently, there is no entry level training program for the acquisition workforce in the ROC. The existing program, the Regular Class, requires the trainees to have some experience in procurement before they enroll the program. After the Regular Class program, there are no advanced level training programs for the acquisition workforce. An acquisition officer, in his career life, will only have one training opportunity. This is not enough for an acquisition personnel to face the continuing changes in global business.

3. Lack of the career development concept: As mentioned early, with the lack of a professionalism policy and the training opportunities, the acquisition workforce in the ROC does not have any career development in its future. Because career

development is closely related to the training systems, extending the training

programs may give more choices for career development. Another good approach is

the certificate policy. If some specific positions require personnel with some

certificate, that might be helpful in developing the acquisition career.

4. Lack of cost effective concept: For the contracting education program, it seems that

the government invests too much, and the training result is limited. For a three year

program which trains a contracting officer whose job is to advise on the acquisition

rather than participate in the contracting management, it is too expensive and less cost

effective.

Contracting Management

During the acquisition process, contracting management approximately covers the

entire acquisition life cycle. Because contracting management is the only interface

between the contractor and the government, the success of contracting management

always means the success of the acquisition. Because contracting management is the

heart of all the acquisition activities (Schmoll, 1996:57), a knowledgeable contracting

officer becomes a critical requirement to achieve the acquisition goals. That is the reason

this study believes that contracting management is an important analysis indicator.

The Contracting Management in the ROC. If one evaluates the acquisition system

in the ROC based on the US acquisition practices, the results may hardly indicate that

there is any contracting management experience in the past history of defense acquisition

in the ROC. According to the two ROC Senior Representative Officers of the FMS

program, Col. Tsai and Lt Col. Yeh, defense acquisition, or even overall government acquisition in the ROC, does not address contracting management. The ROC government regards contracting administration as the interaction between the contractors and the attorney or government legal representatives. There are no managerial techniques or skills involved in contract administration. The only person who deals with the contracting issues is the legal officer or the private legal consultant hired by the government (Tsai & Yeh, 1996).

In the past, the MoD hired private attorneys to deal with contracting issues for the government. Without the management concept in the contracting issues, the MoD authority still believes that the legal officers are the only ones who can deal with the contracting issues. In 1992, the first education program for contracting specialists began in the law school of the NDMC. Unfortunately, there are no managerial courses taught in this program. Unlike the US systems which requires personnel with a business background to deal with the contracting administration, the ROC government always relies on the legal consultant to handle the contracting issues. This difference indicates the different philosophy of the government administration.

The US government dedicates its effort to creating a sound and complete regulation systems such as FAR or the DoD 5000 series, which cover many of the key procurement situations and procedures. With this sound regulation system, the US government needs only the workforce with the business background to handle the complex situations in the acquisition world. Because the sound regulation systems cover many of the possible situations which occur during the acquisition life cycle, the training

duration for a workforce candidate or employee may need to be only two to five weeks. From this point of view, training is more cost effective in the US.

On the other hand, because of the incomplete regulation system in the ROC, the government has no choice but to rely on the legal consultant to write the contract clauses, negotiate with the contractors, and even represent the government in contract awards. Furthermore, because of the weak regulation systems, the government requires three years to train a contracting specialist who does only the legal consultant job. Compared with the two to five weeks training in the US system, the ROC seems less cost effective in the training systems.

Another topic about the contracting management is the selection of the contract type. Due to the lack of information, there is only one type of contract in the ROC, compared with the US system. The fixed price type contract is the only type contract used in the ROC. Under this type, two different contracts include the firm-fixed-price contract and the fixed price contract with the economic adjustment. The firm-fixed-price contract is the most commonly used in ROC procurement, and only in a few situations with the approval from the higher level can the fixed price with economic adjustment contract be used (MoD, 1993:125). With the weak concept in the contract type, there is little choice in contracting strategy.

According to the award criteria in Government Procurement Systems, published by the Public Construction Commission, contracts will be awarded to the responsible tender based on two criteria: the lowest price and government estimate. The tender which offers the lowest price under the government estimate will be awarded the contract (PCC,

1996:4). This so called ceiling price system contributes greatly to the acquisition

scandals and public debate in the current acquisition system (Su, 1993:4). Based on the

ceiling price policy, the only procurement method used in the ROC is the sealed bidding

procedure. In determining the contract award, therefore, the contractors' bids become the

only award criteria (Su, 1993:4).

Comparative Analysis. Because of the difference in philosophy, the policy and

conduct of contracting management in the ROC is different from the system in the US.

By comparing the two systems, this study finds that the US system regards contracting

management as a business technique while, the ROC refers to contracting management as

legal issues. As a result, the ROC handles contracting issues with lawful knowledge

rather than management skills. The following table will delineate more details about the

difference between these two systems.

Table 16. The Comparison of the Contracting Management in the US and the ROC

Difference	• the US system	• the ROC system
• Classification	• Business techniques	• Legal subject
• Concept	• Well defined contracting regulations and procedures • Well educated and trained personnel with business background • Carefully appointment policy • Flexible options based on Contracting Officer's business judgments • Warrant policy	• Weak and contracting regulations or procedures • Always rely on the legal officers or private attorney to deal with the contracting issues

Table 16. The Comparison of the Contracting Management in the US and the ROC (con't)

Difference	• the US system	• the ROC system
• Workforce	• Contracting Officer • Contracting specialists • Contracting Officer Technical Representative	• Lawyers
• Contract Award Approval Level	• Contracting Officer • Contracting Officer's representatives	• Commanders • Agency Head • Legal representative
• Procurement Method	• Full and open • Full and open after consideration • Non-competitive	• Open • Selected
• Award Criteria	• Price • Management capability • Technical skills • Past performance • Socioeconomic considerations	• Price

Findings. Compared with the activities of contracting management in the US, the ROC government has very limited views and ideas in doing this kind of business. The following findings address the shortcomings of the contracting management function in the ROC.

1. Limited concept on the contracting management: Classifying the contracting management into the legal area is important. However, facing the complex environment in business world, it may be more reasonable to classify acquisition as a management or business subject. Because the changing situation in the acquisition life cycle needs quick responses from the contracting administrators, business judgment and strong management skills become necessary requirements to do the

job. The legal experts may help to solve some legal issue but they may need more help when they encounter some business decision points. Moreover, to hire or train a legal expert is more expensive than to maintain a business background personnel, if there is a very sound and complete regulation system.

2. Limited choice in contract type: In conducting contracting management, the selection of the contract types serves an important role in developing the procurement strategy. The more choice of the contract types, the more variation in the contracting strategy. Compared with the US system in the contract types, the ROC government has very little choice in selecting the contract types. This situation can restrict some potential contractors from participating in the government procurement process.

3. Limited choice in solicitation type: As with the contract types, the solicitation type provides strategic choice in developing the procurement strategy. Unlike the two types of solicitation in the US system, the only choice of the solicitation type in the ROC restricts the variation of the procurement strategy. The fixed solicitation way also can limit potential contractors from the government procurement market place.

4. Weak award criteria: The current price criteria to award the contracts in the ROC may not be strong enough to encourage the radical evolution of the technologies and managerial techniques. Moreover, the ceiling price system, which compares the bidder price with the government estimate to decide the awarded contractor creates potential problems during the acquisition process. These problems include the unreasonable "buying in" price, collusive behavior, and improper behaviors between

the contractors and government agents. The ceiling price system has been regarded as the main contributor to the procurement scandals and disputes that have happened in the past few years (Su, 1993:3-4; Chen, 1993:10; Liu, 1995:27; Fruean,1996:38). Therefore, with the complexity of the government acquisition, the price criteria seems insufficient for awarding contracts.

5. Lack of the contracting officer: Unlike the contracting officer in the US, the ROC government relies on legal representatives to deal with the contract issues. Whenever there are contract problems, procurement personnel always go to the legal officer or representative from the private consultant company. As mentioned earlier, that is because the ROC government regards contract management as a legal matter which only can be handled by lawyers. In the ROC, the government has never thought about the concept of using the managerial approach to deal with contracting administration.

Because there is no contracting officer in the ROC, the only person to bind the government obligation is the program head or the agency commander. Since the program head or agency commander may not have enough knowledge about the procurement or contract, he or she may designate the legal officer or representative to sign the contract. Otherwise, he or she may sign the contract based on background knowledge, and the position may influence his or her judgment.

Summary

This chapter presents the answers to the investigative questions I and II. The effort is based on the methodology described in the previous chapter. The presentations of the results include the five analysis indicators. The sections include the policy and statutes, acquisition process, acquisition organization, acquisition workforce training system, and the contracting management. Each section consists of three segments, which are the status quo of each indicator in the ROC, the comparative analysis, and the findings. The first segment of each section is the answer to the first investigative question. The second and third segments of each section is the answer to the second investigative question. The results of this chapter also provide the evidence to answer the third investigative question, which will be addressed in the following chapter.

V. Recommendations and Conclusions

Overview

The purpose of this chapter is to present the recommendations and the conclusions for this study. Based on the Comparative Analysis sections and Findings sections in the previous chapter, the recommendations will provide the answer to the third investigative question. In other words, the recommendations provided in this chapter will guide the direction for deleting the defects in the defense acquisition management found in this study. Meanwhile, these recommendations will give the evidence and support for the current acquisition reform in the ROC. After the recommendations, this chapter will conclude the study by providing a recommendation for future study and the limitations of this study.

Recommendations

The following sections will describe the recommendations to improve the acquisition management functions in the ROC. These sections cover the five analysis indicators, which represent each functional role in the management process. These five indicators give a deep insight for examining the defense acquisition activities in the ROC. Because of the importance of each indicator in the acquisition management, their functional activities always affect the acquisition result explicitly or implicitly.

<u>Policies and Statutes</u>.

1. The establishment of the acquisition policy office: The most significant issue about acquisition management in the ROC is the lack of a complete and sound regulation system. The reason for this issue is because there is no agency in the government which is in charge of the overall regulations or policy about the government procurements. In order to face the complexity and internationalization of the government procurement after the ROC joins WTO, this study urges the ROC government to establish a new office in charge of government procurement.

2. The establishment of the "FAR" systems: Another issue related to the previous recommendation is the establishment of an FAR-like system, a complete regulation system which covers and guides the government procurement for all the government agencies. Because the sound and complete regulation system is the premise of sound acquisition management, the establishment of the new complete regulation becomes an urgent mission in acquisition reform.

3. The broadened horizons of the government procurement objectives: Parts of the government procurement objectives are to upgrade the industrial capability, to protect the businesses with minor groups, and to stablize the society. However, in the ROC procurement, few of the policies and regulations are to achieve these objectives. As the biggest buyer in the nation,

the ROC government should make use of its tremendous amount of budget to reach these objectives. Therefore, this study urges the ROC government to broaden the horizons about procurement objectives.

4. The new definition of the acquisition: To regard the acquisition as the same concept of procurement or buying activity is too limited and dangerous in doing government acquisition. Because of the complexity of the acquisition activities, the limited procurement or buying concept may lead to missing or ignoring some important issues in conducting the job. In a well defined acquisition, the process activities include research, concept study, engineering development, production, deployment, disposal and so forth. Moreover, in the functional perspective, the acquisition activities include cost analysis, contracting management, financial management, system engineering, logistics support, audit, and so forth. A procurement or buying concept cannot cover all of these activities. To better doing the acquisition job, this study believes that the ROC government needs to broaden the definition of acquisition.

5. More actions taken in the acquisition reform: Again, due to the complicated activities in the acquisition process, merely drafting a new law is not enough to reform the acquisition in the ROC. Based on the Findings in the previous chapter, there are several defects in the managerial areas, such as the training system, the acquisition process, contracting management, and so forth. This study believes that the ROC government should take more actions to reengineer defense acquisition management.

Acquisition Process.

1. The addition of life cycle concept in the acquisition process: As mentioned in the previous section, the process activities of acquisition include research, concept study, concept demonstration, engineering development, production, deployment, logistics support, and disposal. Each process has its own functional activities which include contracting management, cost analysis, financial management, system engineering, auditing, and so forth. In the ROC, not only does the acquisition process lack functional activities, but the process activities also lack the life cycle concept. Without the life cycle concept, acquisition will result in tremendous cost overrun. Thus this study recommends that the ROC government add the concept of life cycle into the acquisition process.

2. The encouragement of the electronic acquisition: With the advance of the information technology, it is inevitable for the government to change the means of procurement in the future. These changes include the network acquisition process, credit card purchasing, check payment, and so on. Because the information age brings efficiency in administration, the ROC government should take the stride to encourage the utilization of electronic acquisition. Moreover, the utilization of information technology in the acquisition process not only improves administration efficiency, but also results in a much more open, fair, and competitive environment in the government procurement market.

3. The expansion of the acquisition resources: For the major weapon systems, the ROC always relies on the FMS program. However, the FMS program restricts the MoD personnel from being involved the acquisition process. In short-sighted terms, it is good for the ROC to have the weapon system without paying any cost to manage the acquisition. However, in the long run, the ROC will be weak in acquisition professionals, especially the professionals for the major weapon systems. If the ROC government prevents its procurement sources from other than FMS resources, it is impossible for the government to have well experienced acquisition personnel or international acquisition experts in the future. Therefore, this study urges the ROC to think about expansion of the acquisition resources.

Acquisition Organization.

1. The establishment of the formal acquisition organizations: The lack of the formal organizations in the lower level and some of the MoD components can cause acquisition problems which may result from lack of professional knowledge, improper influence from the higher level, and so forth. In doing acquisition, it is impossible to carry out the well thought policy without a well organized team. Moreover, if there are no strong lower level organizations, there might not be strong human resources in the higher level. For these reasons, this study strongly recommends the establishment of the lower level organizations.

2. Redesign the organizational structure: As mentioned earlier, complex acquisition includes thousands of hundreds of activities. The current process type organizational structure in the ROC may ignore several important issues. With acquisition professionalism, the organizational structure in acquisition would be better in matrix type or functional type organizations because either of these two types will emphasize the professional knowledge and judgment. It also provides a good environment for team work.

Acquisition Workforce Training System.

1. A call for acquisition professionalism: Acquisition is so complicated that it needs several different professionals participating the process. It is risky to have the current policy in the ROC which relies on the procurement officers to have the overall capabilities. According to the Military Technology, 60% of the defense budget is used for defense procurement (Taiwan, 1996:305). To well control the defense expenditure, it is necessary to have some professionals in the acquisition field. To achieve this goal, the first step is to have the concept of professionalism in the training systems. The following table shows the classifications for the acquisition professionals which the study recommends.

Table 17. The Recommendations for the Acquisition Professionals

Function	Position Category
Program Management	1. Program Management 2. Communications—Computer Systems 3. Program Management Oversight
Procurement and Contracting	4. Contracting 5. Purchasing (Including Procurement Assistant)
Business, Cost Estimating, and Financial Management	6. Business, Cost Estimating, and Financial Management
Auditing	7. Auditing
Acquisition Logistics	8. Acquisition Logistics
Science and Engineering	9. System Planing, Research, Development, and Engineering 10. Test and Evaluation Engineering

2. A call for the acquisition career development program: In the ROC, the current training system does not provide entry level and advanced level training for the acquisition workforce. In other words, there is no career development program in the defense acquisition workforce. Professionalism and the career development program are two sides of the same coin. Both of these concepts will increase the confidence of the acquisition workforce in their acquisition career. Therefore, this study believes that the career development program is also vitally important in acquisition training systems. The following table is the recommendation for the career development program in the ROC.

Table 18. The Career Development Program for Acquisition Workforce

Career Level	Training Systems	Working Level
Entry (Basic) Level	• NDMC* ---- Business Administration Departments • CCIT** ---- Engineering Department	• Base or post level • MoD components agencies.
Intermediate Level	• NDMC ---- Military Department • CCIT ---- Military Department	• Army Corps Level • Wing Command level • Naval Fleet level
Advance Level	• NDMC ---- Defense Management Class • NDMC ---- Graduate School • CCIT ---- Graduate School	• Headquarters level • MoD Policy level • Government Policy Office (recommended)
* NDMC: National Defense Management College ** CCIT: Chung Cheng Institute of Technology		

3. A call for the certificate policy: In order to control the quality of acquisition performance and education objectives, a certificate policy may provide a good approach. With the certificate program, each acquisition position requires certain qualifications a worker is selected to serve in this position. This will increase the professionalism concept in the acquisition communities. Moreover, the certificate policy also reduces the internal and external influence from the higher level authority or other interest groups.

Contracting Management

1. The establishment of new position for the Contracting Officer: Because contracting management is the most important part in acquisition, it is necessary for the ROC to create a new position for the contracting officer.

Facing the complex business environment, this new position is to strengthen

the capability of the contracting administration which requires business

knowledge and professional judgments. Therefore, the contracting officer is

business oriented, rather than a legal consulting type function. Moreover,

with the warrant policy, contracting management can reduce the influence

created by pressure from internal factors such as program schedule or budget

deadline, or from external reasons such as higher level authority, interest

groups and so forth.

2. The new concept about contracting management: Compared with the

contracting management in the US system, the contracting management in the

ROC is really limited in its strategic options. For example, the only

procurement method, sealed bidding, not only restricts the procurement

strategy, but also decreases many potential contractors. Based on the analysis

in the previous chapter, this study recommends that the ROC broaden its

concept about contracting management. Giving more choice on contract

types, broadening the procurement methods, and adopting various award

criteria are the significant recommendations provided by this study.

Conclusion

After the examination of defense acquisition management in the ROC, this study

has provided the answers to the three investigative questions. By analyzing these

answers, this study concludes that the major problem of acquisition management in the

ROC is the concept issue. In other words, the ROC government does not have enough information on the acquisition field. This concept problem, the study believes, is the most significant problem in the ROC because this concept issue reflects that the government has a limited definition of acquisition, a lack of concept of life cycle, weakness of training systems, unwillingness of the professionalism policy, and so forth. All of these results have affected the fundamental functions and activities of acquisition management. Without adopting a new concept and complete information about acquisition, it may be difficult for the ROC to remove its acquisition problems.

The objective for this research is to provide directions for improving current acquisition management in the ROC. Based on the efforts described in the previous chapters, this study believes that these answers can serve as the directions for the ROC to improve its acquisition management. Specifically, if the ROC government can adopt the complete concept on acquisition, this study believes that the current problems in acquisition management may be removed quickly.

However, although these directions may guide the ROC to improve its acquisition management, there are still several limitations in conducting this study. These limitations somewhat influence the effect of the study. The following sections will describe these limitations. Following the limitations, the chapter will end by providing suggestions for future research.

Assumption. Although this study assumes that the management function is a global standard, there are several specific issues which may affect these standards in the

defense field. One of the issues is national security. Unlike the United States which has no instant threat, the ROC has to face the threat from China constantly. This national security issue may influence the functional activities when conducting major weapon acquisition. In addition, when considering national security, it is more difficult for defense acquisition to be completely open to the public. That is also a big challenge in conducting this study. Another issue is the culture difference. Based on the assumption of the general standard in the management field, this study ignores the possible impact of culture characteristics on management activities. Different people and geography may result in different approaches in doing business. This limitation restricts the study from exploring the potential results from other angles, such as the ethnographic view point.

Data. In conducting this research, data collection was a big challenge because of the limited information on the acquisition area in the ROC. This limited information includes limited regulation in the government, limited previous research in the academic field, and limited professional knowledge in the real world. This is because the government in the ROC did not pay much attention to the acquisition field in the past. In addition, the weak definition of acquisition in the ROC government agencies also contributes to the limited information for this study. Compared with the US information in the acquisition area, the data found in the ROC is limited and a weak point in a study of comparative analysis.

Recommendations For Further Research. Under the process of acquisition reform in the ROC, little attention has been paid to management functions in terms of reform

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actions by the government or the public. Although the undertaking of the new law is critical in the acquisition reform, only new law drafting is not enough to overcome the current acquisition problems in the ROC. As this study suggested, the ROC government needs to take more deep investigation into the managerial functions.

This study gives a starting point for examining the current acquisition system in the ROC from the management perspective. As an exploratory case study, this research analyzes acquisition management by taking a very broad look that results in the five analysis indicators. Although these selected five indicators are based on the author's logical thinking, the results shown in the previous chapters reveal that, indeed, there are some defects in the management field. However, without detailed analysis in each indicator, this study hopes that the research results can give directions for those who are interested in this topic. Specifically, changing the research method or selecting the different indicators produce different results. In short, acquisition management is a complex activity. During the process, there are many factors which may affect its results. To better define the management problems and well provide the proper answers to the problems, it is necessary for the future researcher to develop deeper insight into the management functions. Again, the acquisition process is more business oriented than the legally oriented. With the end of this study, it is hope that the ROC can find a better way to reform its acquisition.

Summary

This chapter presented the recommendations and conclusion for this research. The recommendations served as the answer to the third investigative question and the guidelines for the ROC to reform its acquisition. The conclusion provides the limitations in conducting this research and also gives the recommendations for further research. Although there were some limitations in conducting this study, the results provided by this study not only reveal the real problems in the ROC's defense acquisition management, but also specific actions which can remove these problems. Finally, by addressing the expected effect of this research, the author would like to see that some actions recommended by this research will be taken by the ROC to reform its acquisition management. Moreover, with the correct concept of acquisition, the author also would like to expect a professional acquisition workforce in the acquisition community in the ROC.

Appendix A. Career Field Descriptions

This appendix provides position category descriptions that are defined in terms of
acquisition-related duties. The acquisition career fields described are:
- Acquisition Logistics
- Auditing
- Business, Cost Estimating, and Financial Management
- Communications-Computer Systems
- Contracting
- Industrial Contract Property Management
- Manufacturing, Production, and Quality Assurance
- Program Management
- Purchasing (includes Procurement Assistant)
- System Planning, Research, Development, and Engineering
- Test and Evaluation

Acquisition Logistics

The acquisition logistics career field includes individuals who are involved in Integrated
Logistics Support (ILS) activities as defined in DoD Directive 5000.1, and DoD
Instruction 5000.2. They manage logistics activities associated with the procurement,
integration, and fielding support systems/environment, weapons systems/equipment, or
system modifications.

Auditing

The mandatory education, experience, and training requirements for the auditing career
field apply to contract auditors within the DoD who are involved with auditing Defense
funded contracts. Contract auditors may be involved in the performance and supervision
of audits, in technical specialty areas relating to audits, in the development of audit
policies and procedures, or in the overall management and control of an audit
organization.

Business, Cost Estimating, and Financial Management

This career field includes individuals responsible for financial planning, formulating financial programs, and administering budgets. They are also responsible for the expenditure, obligations, and accountability of funds; cost and schedule performance management of contractors; and cost estimating. Additional duties include advising or assisting commanders, program managers, and other officials in discharging all aspects of their responsibilities for business management in direct support of the Defense acquisition process. This position category includes various disciplines which are divided into two tracks for career planning purposes: Business Financial Management (BFM) and Cost Estimating (CE).

Communications-Computer Systems

This field includes Computer Systems Analysts, Information Management Specialists, Telecommunications Managers and Software/Automation Specialists, Computer Engineers, etc., directly supporting the acquisition of automated information systems and interconnecting components (to include hardware, software, firmware products) used to create, record, produce, store, retrieve, process, transmit, disseminate, present, or display data or information. This includes computers ancillary equipment, software, telecommunications, and other related services. The employee identifies requirements; writes and/or reviews specifications, identifies costs, obtains resources (manpower, funding, and training), tests, evaluates, plans, obtains, and manages life cycle support (operations, maintenance, and replacement).

Contracting

The contracting career field includes the positions of Contract Negotiator, Contract Specialist, Contract Termination Specialist, Contract Administrator, Procurement Analyst, Administrative Contracting Officer, Contract Price and/or Cost Analyst, Contracting Officer, and Termination Contracting Officer. Individuals in this career field develop, manage, supervise, or perform policies and procedures involving the procurement of supplies and services; construction, research, and development; acquisition planning; cost and price analysis; selection and solicitation of sources; preparation, negotiation, and award of contracts; all phases of contract administration; and termination, or close out of contracts. The employee is required to have knowledge of the legislation, policies, regulations, and methods used in contracting, as well as

knowledge of business and industry practices, sources of supply, cost factors, cost and price analysis techniques, and general requirements characteristics.

Industrial/Contract Property Management

The industrial/contract property management career field includes the Industrial Property Management Specialist, Property Administrator Industrial Plant Clearance Specialist, Plant Clearance Officer, and Contract and Industrial Specialist (if assigned property management responsibilities). Individuals in this career field include personnel who perform, manage, supervise, or develop policies and procedures for government property. It may involve the acquisition, control, management, use, and disposition of Government-owned property used by contractors or storage to support future contractual requirements. Responsibilities include: providing guidance, counsel, and direction to Government and contractor managers and technicians relating to regulatory and contractual requirements for managing Government property; participating in pre-award surveys and post-award reviews; reviewing contracts assigned for property administration; evaluating a contractor's property management system and approving the system or recommending disapproval; and developing and applying property systems analysis programs to assess the effectiveness of contractors' Government property management systems. These functions are normally performed by property administrators, as part of the contract administration team, and as required by Parts 42.3, 45 and 245 of the FAR and DFARS. Plant Clearance Officers are responsible for performing the duties necessary to dispose of excess and surplus contractor inventory in accordance with Part 45.6 of the FAR and Part 245.6 of the DFAR requirements.

Manufacturing, Production, and Quality Assurance

Acquisition-related manufacturing and production personnel, and production career field duties, vary greatly in managerial, administrative, and technical content. Acquisition-related contractor, manufacturing, and production duties, usually involve program management or monitoring the manufacturing and production efforts of private sector contractors.

The Quality Assurance Specialist manages quality assurance activities to establish essential quality standards and controls. He or she also develops and executes plans that focus on quality of design, quality of conformance, and fitness for use; integrates quality plans into the system engineering process; and develops policies, procedures and test provisions and quality requirements in specifications, standards, and solicitations. The

Specialist evaluates quality assurance during acquisition such as design reviews, functional and configuration audits, production readiness reviews, and milestone reviews.

Procurement/Purchasing Technician

Individuals in the procurement/purchasing career field are typically purchasing agents or supervisory purchasing agents. This function requires the individual to purchase, rent or lease supplies, services and equipment through either formal open-market methods or formal competitive bid procedures with the primary objective of the work being the rapid delivery of goods and services in direct support of operational requirements. It requires knowledge of commercial supply sources and of common business practices for roles, prices, discounts, deliveries, stocks, and shipments.

Program Management

The program management career field includes, but is not limited to, Program Managers (PM), Deputy Program Managers (DPM), or Program Executive Officer (PEO) and Deputy Program Executive Officer positions. Other examples include staff positions such as Program Analyst or Program Integrator. Responsibilities may be broad or focused and may be line or staff in nature. Defense Acquisition programs are managed in accordance with DoD Directive 5000.1, and DoD 5000.2-R.

Systems Planning, Research, Development, and Engineering

Personnel who work in this field are usually engineers and scientists with degrees performing systems planning, research and development, and/or other engineering tasks. These individuals may include managers or technical specialists in engineering, chemistry, physics, operations research, mathematics, and computer science fields, who directly support acquisition programs, projects, or activities. These positions require the incumbent to plan, organize, monitor, oversee, and/or perform engineering activities that relate to the design, development, fabrication, installation, modification, or analysis of systems or system components. Duties may require identification, establishment, organization or implementation of acquisition engineering objectives and policies, or establishment of specifications.

Test and Evaluation

Individuals who work in this field are usually engineers, scientists, operations researchers, computer scientists and other degree-holding technical personnel who perform test and evaluation tasks in support of acquisition. It includes managers and technical specialists in engineering, physics, operations research, mathematics, and computer science fields who are responsible for planning, monitoring, conducting, and evaluating tests of prototype, new, or modified weapon systems equipment or materiel. Individuals also analyze, assess, and evaluate test data and results; prepare assessments of test data and results; and write reports of findings.staff positions such as Program Analyst or Program Integrator. Responsibilities may be broad or focused and may be line or staff in nature. Defense Acquisition programs are managed in accordance with DoD Directive 5000.1, and DoD 5000.2-R.

<u>Appendix B. Acquisition Workforce Professional Certification Standards</u>

The following checklists provide a concise description of the education, experience, and training required to meet the standards for certification in acquisition career fields. The Under Secretary of Defense for Acquisition and Technology (USD(A&T)) has approved these checklists for the acquisition workforce under the authority of DoD Directive 5000.52, "Defense Acquisition Education, Training and Career Development Program." They are for use from October 1, 1996, through September 30, 1997. DoD components are responsible for ensuring that workforce personnel are trained to qualify for their current assignments, to prepare them for more responsible jobs, and to cross-train them for assignments in other acquisition fields. All courses that may be taken to meet Defense Acquisition Workforce Improvement Act (DAWIA) certification requirements for FY 1997 are included in this appendix.

The USD(A&T) also has designated certain courses that provide knowledge required to perform certain acquisition duties. These assignment-specific courses are presented in Appendix H.

The checksheets incorporate other information useful for determining how the standards may be met. Personnel Data System (PDS) codes used to track training in automated personnel systems are included for each of the courses. They are shown in square brackets "[ ]" after the course title. Predecessor courses, i.e. discontinued courses that satisfy the current training requirements, and equivalent courses for certification purposes are provided in Appendix A.

It is strongly recommended that the courses be attended in the order listed. These are progressive, sequential courses that build upon previously learned skills in an integrated curriculum. The Components are responsible for determining that a prospective student posesess sufficient knowledge and/or background to attend a course. Where knowledge and skills provided in one course are considered essential for participation in another, the prior class is listed as a prerequisite.

Course descriptions are provided in Chapter 5 of this catalog, and instructions for registering for classes are provided in Chapter 2, section B. DAU uses the Army Training Requirements and Resources System (ATRRS) for centralized registration in all of its classes. Class schedules are maintained in ATRRS and should be available through your local training office. Up-to-date class schedules are also made available for downloading from the DAU World Wide Web home page (www.acq.osd.mil/dau) or the DAU computer bulletin board (see Chapter 2, section F).

Checksheets are provided for each of three career levels in the following career fields:

- Acquisition Logistics
- Auditing
- Business, Cost Estimating and Financial Management
- Communications - Computer Systems
- Contracting
- Industrial/Contract Property Management
- Manufacturing, Production and Quality Assurance
- Program Management
- Purchasing
- Systems Planning, Research, Development and Engineering
- Test and Evaluation

ACQUISITION LOGISTICS - Level 1

EDUCATION:
- (Desired) Baccalaureate degree in technical, scientific, or managerial field

EXPERIENCE:

- One year of acquisition experience

TRAINING:

- ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- LOG 101 Acquisition Logistics Fundamentals [JR1]
    Prerequisite: ACQ 101 Fundamentals of Systems Acquisition
    Management [BU5]

ACQUISITION LOGISTICS - LEVEL 2

EDUCATION

- (Desired) Baccalaureate Degree in a technical, scientific or managerial field

EXPERIENCE:

- Two years of acquisition logistics experience

- (Desired) An additional two years of acquisition logistics experience

TRAINING:

- ACQ 201 Intermediate Systems Acquisition [JHA]
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- LOG 201 Intermediate Acquisition Logistics [JR3]
  Prerequisites:
  LOG 101 Acquisition Logistics Fundamentals [JR1]
  ACQ 201 Intermediate Systems Acquisition [JHA]

- LOG 203 Reliability and Maintainability [AKA]
  Prerequisite:
  ACQ 201 Intermediate Systems Acquisition [JHA]

- Complete ONE of:

- LOG 204 Configuration Management [QMB]
  Prerequisite:
  ACQ 201 Intermediate Systems Acquisition [JHA]

- LOG 205 Provisioning [QM7]
  Prerequisite:
  ACQ 201 Intermediate Systems Acquisition [JHA]

- (Desired) SYS 201 Intermediate Systems Planning, Research, Development
  and Engineering [BE2]

ACQUISITION LOGISTICS - LEVEL 3

EDUCATION

- (Desired) Master's degree in a technical, scientific, or managerial field

EXPERIENCE

- Four years of acquisition logistics experience.

- (Desired) An additional four years of acquisition logistics experience

TRAINING

- LOG 304 Executive Acquisition Logistics Management [AH1]
    Prerequisites:
    ACQ 201 Intermediate Systems Acquisition [JHA]
    LOG 201 Intermediate Acquisition Logistics [JR3]
    LOG 203 Reliability and Maintainability [AKA]
    ONE of: LOG 204 Configuration Management [QMB] or LOG 205
    Provisioning [QM7]

Auditing - Level 1

EDUCATION - Have ONE of:

- A Baccalaureate degree in accounting

- A Baccalaureate degree in a related field, such as business administration or
  finance, which included or was supplemented by 24 semester hours in
  accounting

- At least four years of experience in accounting

- An equivalent combination of accounting experience, college education and
  training

EXPERIENCE - Either:

- Meet OPM Qualification Standards for entry into the series

- Baccalaureate Degree with 24 semester hours in accounting

- (Desired) Accounting/auditing work experience in industry or public
  accounting

TRAINING:

- AUD 1130 Technical Indoctrination [PC6]
    Prerequisites:

AUD 1111 Orientation to Contract Auditing
AUD 1124 Audit Applications of FAR Part 31

- (Desired) AUD 6115 Effective Report Writing

AUDITING - LEVEL 2

EDUCATION

- Entry below GS-9 - Complete Level 1 requirements

- Entry at GS-9-Complete Level 1 requirements and ONE of:

- All requirements for a Master's degree or equivalent •Two full years of graduate education

- (Desired) Beginning graduate studies leading to a Master's degree in accounting, business administration, management, or a related field

- (Desired) Professional certification (CPA, CMA, CIA, CISA)

EXPERIENCE

- Auditing experience of increasing complexity and responsibility

- (Desired) Experience performing increasingly complex audits for normal progression and with increasing independence

TRAINING

- Complete ONE of:
- AUD 1320 Intermediate Contract Auditing [JR7]
  Prerequisites:
  AUD 1130 Technical Indoctrination [PC6]
  AUD 1280 Fraud Prevention and Detection

- AUD 4120 Statistical Sampling [QPO]
  Prerequisite: AUD 1130 Technical Indoctrination [PC6]

- AUD 4230 Graphic, Computational, and Improvement Curve Analysis Techniques [QPC]

Prerequisite: AUD 1130 Technical Indoctrination [PC6]

- (Desired) Any courses among:
- AUD 1430 Accounting and Auditing Update
- AUD 1560 Emerging Cost Accounting Issues
- AUD 5632 Computer Billing Algorithms
- AUD 5650 Basic Data Retrieval - DATATRAK
- AUD 5720 EDP Internal Control Reviews and JCL
- AUD 6220 Auditor Interview & Interpersonal Reactions
- AUD 6240 Oral Presentation Workshop

AUDITING - LEVEL 3

EDUCATION

- Complete Level 2 requirements

- (Desired) Master's degree in accounting, business administration, management, or a related field

EXPERIENCE

- Meet all Level 1 and 2 requirement qualification standards from OPM Qualification Standards Handbook. Supervisory auditors must also meet additional OPM qualifications.

- (Desired) Assignments in a variety of organizational settings

TRAINING

- AUD 8560 DCAA Supervisory Skills Workshop [CBJ]
- (Mandatory for all supervisory personnel)

- (Desired) Complete ONE of:
- AUD 1275 Advanced Cost Management Systems

- AUD 4030 Quantitative Methods for Managers

- AUD 5640 Electronic Data Processing for Managers

- CON 301 Executive Contracting [BB3]

BUSINESS, COST ESTIMATING AND FINANCIAL MANAGEMENT - LEVEL 1

EDUCATION:

- (Desired) Baccaulaureate degree

EXPERIENCE:

- One year of acquisition experience in business, cost estimating, or financial management

TRAINING: (Cost Estimating Track)

- ACQ 101 Fundamentals of System Acquisition Management [BU5]

- BCE 101 Fundamentals of Cost Analysis [Q1A]
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

TRAINING: (Business, Financial Management Track)

- ACQ 101 Fundamentals of Systems Acquisition Management [BU5]

- Complete ONE of:

- BCE 101 Fundamentals of Cost Analysis [Q1A]
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- BFM 102 Contract Performance Management Fundamentals [QMK]
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

BUSINESS, COST ESTIMATING AND FINANCIAL MANAGEMENT - LEVEL 2

EDUCATION:

- (Desired) Baccalaureate degree

- Two years of acquisition experience in business, cost estimating, or financial management

- (Desired) An additional two years in business, cost estimating, or financial management

TRAINING:

- ACQ 201 Intermediate Systems Acquisition [JHA]
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- BFM 201 Systems Acquisition Funds Management [PCW]
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- Cost Estimating Track:

- BCE 204 Intermediate Cost Analysis [Q2B]
  Prerequisite: BCE 101 Fundamentals of Cost Analysis [Q1A]

- Complete at least TWO other course options below

- Business, Financial Management Track:

- Complete at least THREE course options below

- COURSE OPTIONS:

- BCE 101 Fundamentals of Cost Analysis [Q1A]
- (An option only if not previously taken to satisfy Level I requirements)
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- BCE 204 Intermediate Cost Analysis [Q2B]
  Prerequisite: BCE 101 Fundamentals of Cost Analysis [Q1A]

- BCE 206 Cost Risk Analysis [Q2C]
  Prerequisite: BCE 101 Fundamentals of Cost Analysis [Q1A]

- BCE 207 Economic Analysis [Q2D]
  Prerequisite: BCE 101 Fundamentals of Cost Analysis [Q1A]

- BCE 208 Software Cost Estimating [Q2E]
  Prerequisites BCE 101 Fundamentals of Cost Analysis [Q1A]

- BFM 102 Contract Performance Management Fundamentals [QMK]
- (An option only if not previously taken to sastisfy Level I requirements)
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- BFM 203 Intermediate Contract Performance Management [PAQ]
  Prerequisites:
  ACQ 201 Intermediate Systems Acquisition [JHA]
  BFM 102 Contract Performance Management Fundamentals [QMK]

- BFM 204 Contractor Finance for Acquisition Managers [Q2A]
  Prerequisite: ACQ 201 Intermediate Systems Acquisition [JHA]

- BFM 209 Selected Acquisition Report [Q2F]
  Prerequisite: ACQ 201 Intermediate Systems Acquisition [JHA]

BUSINESS, COST ESTIMATING AND FINANCIAL MANAGEMENT - LEVEL 3

EDUCATION:

- (Desired) Baccalaureate degree with 24 semester hours in accounting, business finance, law, contracts, purchasing, economics, industrial management, marketing, quantitative methods or organization and management

- (Desired) Master's degree

EXPERIENCE:

- Four years of acquisition experience in business, cost estimating, or financial management

- (Desired) An additional four years of acquisition experience in business, cost estimating, or financial management

TRAINING:

- BCF 301 Business, Cost Estimating and Financial Management Workshop [BZF]
  Prerequisite: ACQ 201 Intermediate Systems Acquisition [JHA]

Or Combination of: BFM 102 Contract Performance Management Fundamentals [QMK], BFM 201 Systems Acquisition Funds Management [PCW], and BCE 101 Fundamentals of Cost Analysis [Q1A]

- Complete at least ONE of the following courses that have not been previously taken:

- BCE 101 Fundamentals of Cost Analysis [Q1A]
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- BCE 204 Intermediate Cost Analysis [Q2B]
  Prerequisite: BCE 101 Fundamentals of Cost Analysis [Q1A]

- BFM 102 Contract Performance Management Fundamentals [Q1B]
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- BFM 203 Intermediate Contract Performance Management [Q2G]
  Prerequisites:
  ACQ 201 Intermediate Systems Acquisition [JHA]
  BFM 102 Contract Performance Management Fundamentals [QMK]

- BFM 204 Contractor Finance for Acquisition Managers [Q2A]
  prerequisite: ACQ 201 Intermediate Systems Acquisition [JHA]

- (Desired) PMT 302 Advanced Program Management [BU1]
  Prerequisite: ACQ 201 Intermediate Systems Acquisition [JHA]

COMMUNICATIONS - COMPUTER SYSTEMS - LEVEL 1

EDUCATION:

- (Desired) Baccalaureate degree, preferably with a major in computer science, management of automated information systems, business administration, or a related field

EXPERIENCE:

- One year of acquisition experience in communications/computer systems

TRAINING:

- ACQ 101 Fundamentals of Systems Acquisition Management [BU5]

- NOTE: The following course will become mandatory beginning in FY 1998.
  It will become available in the 2nd Quarter of FY 1997 for student attendance.

- IRM 101 Basic Information Systems Acquisition [JHD]
     Prerequisite: ACQ 101 Fundamentals of System Acquisition Management
     [BU5]

COMMUNICATIONS - COMPUTER SYSTEMS - LEVEL 2

EDUCATION:

- (Desired) Master's degree, preferably with a major in computer science,
  management of automated information systems, business administration, or a
  related field

EXPERIENCE:

- Two years of acquisition experience, at least one year of this experience must
  be in communications/computer systems

- (Desired) An additional two years of communication/computer systems
  acquisition experience, preferably in a program office or similar organization

TRAINING:

- ACQ 201 Intermediate Systems Acquisition [JHA]
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- IRM 201 Intermediate Information Systems Acquisition [QN5]
     Prerequisites:
     IRM 101 Basic Information Systems Acquisition [JHD]
     ACQ 201 Intermediate Systems Acquisition [JHA]

COMMUNICATIONS - COMPUTER SYSTEMS - LEVEL 3

EDUCATION:

- (Desired) Master's degree, preferably with a major in computer science, management of automated information systems, business administration, or a related field

EXPERIENCE:

- Four years of communications/computer acquisition experience, of which at least two years must be in a program office or similar organization (Dedicated matrix support to a PM or PEO, DCMC program integrator, or Supervisor of Shipbuilding)

- (Desired) Four additional years of communications and/or computer systems acquisition experience

TRAINING:

- IRM 303 Advanced Information Systems Acquisition [BZE]
  Prerequisite: IRM 201 Intermediate Information Systems Acquisition [QN5]

- (Desired) PMT 302 Advanced Program Management [BU1]
  Prerequisite: ACQ 201 Intermediate Systems Acquisition [JHA]

CONTRACTING - LEVEL 1

EDUCATION - Have ONE of:

- Baccalaureate degree
- At least 24 semester hours (DANTES or CLEP equivalency exams may be included) among: accounting, law, business finance, contracts, purchasing; economics, industrial management, marketing, quantitative methods, organization and management

- At least 10 years of acquisition experience (as of 1 Oct 91)

EXPERIENCE:

- One year of contracting experience

TRAINING:

- Contracting Principles - Complete ONE of:

- CON 101 Contracting Fundamentals [BDQ]

- CON 102 Operational Level Contracting Fundamentals [PEC]
  (For contracting positions at the post, camp, or station level)

- CON 103 Facilities Contracting Fundamentals [HEI]
  (For construction and facilities contracting personnel)

- Contract Pricing Principles - Complete ONE of:

- CON 104 Contract Pricing [BDR]
  Prerequisite: CON 101 Contracting Fundamentals [BDQ], or CON 102
  Operational Level Contracting Fundamentals [PEC], or CON 103 Facilities
  Contracting Fundamentals [HEI]

- CON 105 Operational Level Contract Pricing Fundamentals [QNU]
  (For contracting positions at the post, camp or station level)
  Prerequisite: CON 101 Contracting Fundamentals [BDQ] or CON 102
  Operational Level Contracting Fundamentals [PEC]

- CON 106 Facilities Contracts Pricing [BDU]
      (For construction and facilities contracting personnel)
      Prerequisite: CON 101 Contracting Fundamentals [BDQ] or CON 103
      Facilities Contracting Fundamentals [HEI]

CONTRACTING - LEVEL 2

EDUCATION: Have ONE of:

- Baccalaureate degree

- At least 24 semester hours (DANTES or CLEP equivalency exams may be included) among: accounting, law, business finance, contracts, purchasing, economics, industrial management, marketing, quantitative methods, organization and management

- At least 10 years acquisition experience (as of 1 Oct 91)

- (Desired) Graduate studies in business administration or procurement

EXPERIENCE:

- Two years contracting experience

- (Desired) An additional two years of contracting experience

TRAINING:

- According to primary assignment, complete at least ONE of:

- CON 211 Intermediate Contracting [BDN]
  (For pre-award personnel)
  Prerequisite: CON 104, Contract Pricing [BDR], or CON 105, Operational Level Contract Pricing Fundamentals [QNU], or CON 106, Facilities Contract Pricing [BDU]

- CON 221 Intermediate Contract Administration [BDO]
  (For post-award personnel)
  Prerequisite: CON 104, Contract Pricing [BDR], or CON 105, Operational Level Contract Pricing Fundamentals [QNU], or CON 106, Facilities Contract Pricing [BDU]

- CON 222 Operational Level Contract Administration [PDQ]
  For contracting positions at the post, camp or station level)
  Prerequisite: CON 104, Contract Pricing [BDR], or CON 105, Operational Level Contract Pricing Fundamentals [QNU]

- CON 223 Intermediate Facilities Contracting [BE4]
  (For construction and facilities contracting personnel)
  Prerequisite: CON 104, Contract Pricing [BDR], or CON 106, Facilities Contracts Pricing [BDU]

- CON 231 Intermediate Contract Pricing [BCC]

Prerequisite: CON 104, Contract Pricing [BDR], or CON 105, Operational
Level Contract Pricing Fundamentals [QNU], or CON 106, Facilities
Contracts Pricing [BDU]

- CON 201 Government Contract Law [BDP]
  Prerequisites: Level I courses mandatory for Contracting Career Field

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CONTRACTING - LEVEL 3

EDUCATION: Have ONE of:

- Baccalaureate degree

- At least 24 semester hours (DANTES or CLEP equivalency exams may be
  included) among: accounting, law, business finance, contracts, purchasing,
  economics, industrial management, marketing, quantitative methods,
  organization and management

- At least 10 years acquisition experience (as of 1 Oct 91)

- (Desired) Master's degree in Business Administration or Procurement

EXPERIENCE:

- Four years contracting experience

- (Desired) An additional four years of contracting experience

TRAINING:

- CON 301 Executive Contracting [BB3]
  Prerequisite: Level II courses mandatory for Contracting Career Field
  (Should be taken every 3-5 years as a refresher, but does not have to be
  repeated to maintain certification)

- CON 333 Management for Contracting Supervisors [BU7]
  (For pre- and post-award personnel)
  Prerequisite: At least one year experience in a contracting position after
  receiving Contracting Level II certification

- (Desired) 2 weeks Management and Leadership Training

INDUSTRIAL/CONTRACT PROPERTY MANAGEMENT - LEVEL 1

EDUCATION: (Desired) Have one of:

- Baccalaureate degree

- At least 24 semester hours (DANTES or CLEP equivalency exams may be included) among: accounting; law, business finance; contracts; purchasing; economics; industrial management; marketing; quantitative methods; organization and management

EXPERIENCE:

- One year of experience in acquisition

TRAINING:

- IND 101 Contract Property Administration Fundamentals [PDM]

- IND 102 Contract Property Disposition [PDO]

- IND 103 Contract Property Systems Analysis [BRL]
  Prerequisite: IND 101 Contract Property Administration Fundamentals [PDM]

- Complete ONE of:

- CON 101 Contracting Fundamentals [BDQ]

- CON 102 Operational Level Contracting Fundamentals [PEC]

- CON 103 Facilities Contracting Fundamentals [HEI]

INDUSTRIAL/CONTRACT PROPERTY MANAGEMENT - LEVEL 2

EDUCATION: (Desired) Have one of:

- Baccalaureate degree

- At least 24 semester hours (DANTES or CLEP equivalency exams may be included) among: accounting; law, business finance; contracts; purchasing; economics; industrial management; marketing; quantitative methods; organization and management

EXPERIENCE:

- Two years of experience in an industrial property management acquisition position

- (Desired) An additional 2 years of experience in an industrial property management acquisition position

TRAINING:

- IND 201 Intermediate Contract Property Administration [PDN]
  Prerequisite: IND 103 Contract Property Systems Analysis [BRL]

- IND 202 Contract Property Management Seminar [BRM]
  (Should be taken every 3-5 years as a refresher, but does not have to be repeated to maintain certification)
  Prerequisite: IND 201 Intermediate Contract Property Adminisration [PDN]

- CON 201 Government Contract Law [BDP]
  Prerequisites: Level I courses mandatory for Contracting Career Field

- Complete ONE of:

- CON 221 Intermediate Contract Administration [BDO]
  Prerequisite: CON 101 Contracting Fundamentals [BDQ] or CON 102 Operational Level Contracting Fundamentals [PEC] or CON 103 Facilities Contracting Fundamentals [HEI]

- CON 222 Operational Level Contract Administration [PDQ]

Prerequisite: CON 101 Contracting Fundamentals [BDQ] or CON 102
Operational Level Contracting Fundamentals [PEC] or CON 103 Facilities
Contracting Fundamentals [HEI]

INDUSTRIAL/CONTRACT PROPERTY MANAGEMENT - LEVEL 3

EDUCATION:

- (Desired) Baccalaureate degree

- AND at least 24 semester hours (DANTES or CLEP equivalency exams may
  be included) among: accounting; law, business finance; contracts; purchasing;
  economics; industrial management; marketing; quantitative methods;
  organization and management

EXPERIENCE:

- Four years of experience in industrial property management acquisition
  positions of increasing responsibility and complexity

- (Desired) Four additional years of experience in industrial property
  management acquisition positions

TRAINING:

- CON 301 Executive Contracting [BB3]
  Prerequisite: Level II courses mandatory for Contracting Career Field
  (Should be taken every 3-5 years as a refresher, but does not have to be
  repeated to maintain certification)

- CON 333 Management for Contracting Supervisors [BU7]
  Prerequisite: At least one year experience in industrial property management
  after receiving Industrial Property Management Level II certification

- IND 202 Contract Property Management Seminar [BRM]
  Prerequisite: IND 201 Intermediate Contract Property Adminisration [PDN]
  (Should be taken every 3-5 years as a refresher, but does not have to be
  repeated to maintain certification)

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MANUFACTURING, PRODUCTION, & QUALITY ASSURANCE - LEVEL 1

EDUCATION: None mandatory

EXPERIENCE:

- One year of acquisition experience in engineering, manufacturing, production, or quality assurance

- (Desired) At least four weeks (cumulative) rotational assignments at a contractor and/or Government industrial facility to include experience in quality, manufacturing, engineering, and contracting

TRAINING:

- ACQ 101 Fundamentals of Systems Acquisition Management [BU5]

- PQM 101 Production and Quality Management Fundamentals [BU2]
      Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

MANUFACTURING, PRODUCTION, & QUALITY ASSURANCE - LEVEL 2

EDUCATION:

- (Desired) Baccalaureate degree in engineering, chemistry, physical science, mathematics, statistics, manufacturing or production management, industrial technology or management, quality assurance, or related field

- (Desired) Master's degree in business, production management, engineering, or a related field

EXPERIENCE:

- Two years of acquisition experience in engineering, manufacturing, production or quality assurance

- (Desired) At least four weeks (cumulative) rotational assignments at a contractor and/or Government industrial facility to include experience in quality, manufacturing, engineering and contracting (if not completed at Level 1)

- (Desired) Two additional years of experience in manufacturing, production, or quality assurance

TRAINING:

- ACQ 201 Intermediate Systems Acquisition [JHA]
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- PQM 201 Intermediate Production and Quality Management [BU3]
  Prerequisites:
  PQM 101 Production and Quality Management Fundamentals [BU2]
  ACQ 201 Intermediate Systems Acquisition [JHA]

MANUFACTURING, PRODUCTION, & QUALITY ASSURANCE - LEVEL 3

EDUCATION:

- (Desired) Baccalaureate degree in engineering, chemistry, physical science, mathematics, statistics, manufacturing or production management, industrial technology or management, quality assurance, or related field

- (Desired) Master's degree in business, production management, engineering, or a related field

EXPERIENCE:

- At least four years of acquisition experience in engineering, manufacturing, production, or quality assurance

- (Desired) Four additional years of experience in manufacturing, production, or quality assurance

TRAINING:

- PQM 301 Advanced Production and Quality Management [HV2]
  Prerequisite: PQM 201 Intermediate Production and Quality Management [BU3]

- (Desired) One advanced seminar in current acquisition management issues
  (Not currently provided by DAU. See local training support office.)

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PROGRAM MANAGEMENT - LEVEL 1

EDUCATION:

- (Desired) Baccalaureate degree preferably with a major in engineering, systems management, or business administration

EXPERIENCE:

- One year of program management experience

TRAINING:

- ACQ 101 Fundamentals of Systems Acquisition Management [BU5]

- (Desired) ACQ 201 Intermediate Systems Acquisition [JHA]
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- (Desired) One DAU level 100 course in another functional area

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PROGRAM MANAGEMENT - LEVEL 2

EDUCATION: (Desired)

- Master's degree preferably with a major in engineering, systems management, business administration, or a related field

EXPERIENCE:

- Two years of acquisition experience, at least one year of which must be in program management

- (Desired) An additional two years of acquisition experience, preferably in a systems program office or similar organization

TRAINING:

- ACQ 201 Intermediate Systems Acquisition [JHA]

Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- (Desired) One DAU level 200 course in another functional area

- (Desired) Intermediate level management and leadership training
- (Not currently provided by DAU. See local training support office.)

PROGRAM MANAGEMENT - LEVEL 3

EDUCATION:

(Desired) Have ONE of:

- At least 24 semester credit hours from among: accounting, business finance, law, contracts, purchasing, economics, industrial management, marketing, quantitative methods, organization, and management

- At least 24 semester credit hours in the individual's career field and 12 semester credit hours in the disciplines listed above

- Pass DANTES or CLEP equivalency exams for the above

- (Desired) Master's degree in engineering, systems acquisition management, business administration, or a related field

EXPERIENCE:

- Four years of acquisition experience, of which at least two years must have been in a program office or similar organization (dedicated matrix support to a PM or PEO, DCMC program integrator, or Supervisor of Shipbuilding)

- (Desired) Two additional years of acquisition experience

TRAINING: (see note below)

- PMT 302 Advanced Program Management [BU1]
  Prerequisite: ACQ 201 Intermediate Systems Acquisition [JHA]

- Note: Individuals not currently certified Level 3 have until Oct. 1, 1998 or 18 months after assignment to a new or different Level III position (whichever is later) to meet this standard for certification.

PURCHASING - LEVEL 1

EDUCATION

- (Desired) Sixteen semester hours of undergraduate work, with emphasis in business

EXPERIENCE

- One year of experience in purchasing

TRAINING:

Complete ONE of:

- PUR 101 Simplified Acquisition Fundamentals [BCQ]

- PUR 102 Operational Level Simplified Acquisition Fundamentals [PDZ]

PURCHASING - LEVEL 2

EDUCATION

- (Desired) Thirty-two semester hours of undergraduate work, with an emphasis in business

EXPERIENCE:

- Two years of experience in purchasing

TRAINING:

- PUR 201 Intermediate Simplified Acquisition Procedures [BCO]
    Prerequisite: PUR 101 Simplified Acquisition Fundamentals [BCQ] or
    PUR 102 Operational Level Simplified Acquisition Fundamentals [PDZ]

PURCHASING - LEVEL 3

EDUCATION

- (Desired) Sixty-four semester hours of undergraduate work, with emphasis in business

EXPERIENCE

- Three years of experience in purchasing

TRAINING: None Required

SYSTEMS PLANNING, RESEARCH, DEVELOPMENT & ENGINEERING- LEVEL 1

EDUCATION:

Have ONE of:

- Baccaulaureate degree from an accredited institution of higher learning in engineering, physics, chemistry, mathematics, or related field

- At least 10 years of acquisition experience in Systems Planning, Research, Development & Engineering (as of 1 Oct 91)

EXPERIENCE:

- One year of acquisition experience in science or engineering

TRAINING:

- ACQ 101 Fundamentals of System Acquisition Management [BU5]

SYSTEMS PLANNING, RESEARCH, DEVELOPMENT & ENGINEERING - LEVEL2

EDUCATION:

Have ONE of:

- Baccaulaureate degree from an accredited institution of higher learning in engineering, physics, chemistry, mathematics, or related field

- At least 10 years of acquisition experience in Systems Planning, Research, Development and Engineering (as of 1 Oct 91)

- (Desired) Master's degree from an accredited institution of higher learning in engineering, physics, chemistry, mathematics, operations research, management or related field

- (Desired) Nine semester credit hours from among: accounting, business finance, law, economics, industrial management, quantitative methods, or organization and management. DANTES or CLEP exams may be substituted.

EXPERIENCE:

- Two years of acquisition experience in science or engineering

- (Desired) An additional two years of acquisition experience in science or engineering

TRAINING:

- ACQ 201 Intermediate Systems Acquisition [JHA]
- Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- SYS 201 Intermediate Systems Planning, Research, Development, and Engineering [BE2]
- Prerequisite: ACQ 201 Intermediate Systems Acquisition [JHA]

- (Desired) A DAU level 200 or level 100 course mandatory for acquisition logistics, program management, quality assurance, communications-computer systems, manufacturing and production, test and evaluation, or systems planning, research, development and engineering

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SYSTEMS PLANNING, RESEARCH DEVELOPMENT & ENGINEERING - LEVEL 3

EDUCATION:

Have ONE of:

- Baccaulaureate degree from an accredited institution of higher learning in engineering, physics, chemistry, mathematics, or related field

- At least 10 years of acquisition experience in Systems Planning, Research, Development and Engineering (as of 1 Oct 91)

- (Desired) Advanced degree from an accredited institution of higher learning in engineering, physics, chemistry, mathematics, operations research, management or related field

- (Desired) 12 semester hours from among: accounting, business finance, law, economics, industrial management, quantitative methods, or organization and management. DANTES or CLEP exams may be substituted

EXPERIENCE:

- Four years of acquisition experience in science or engineering

- (Desired) Four additional years of experience in acquisition positions of increasing responsibility and complexity

TRAINING:

- SYS 301 Advanced Systems Planning, Research, Development and Engineering [HV1]
  Prerequisite: SYS 201 Intermediate Systems Planning, Research, Development and Engineering

- (Desired) Any mandatory DAU level 200 or level 300 course in acquisition logistics; program management; quality assurance; communications-computer systems; manufacturing and production; test and evaluation; or systems planning, research, development and engineering

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TEST AND EVALUATION - LEVEL 1

EDUCATION:

Have ONE of:

- Baccaulaureate degree with 24 semester hours, or equivalent, in physical science, mathematics, chemistry, engineering, physics, operations research, or a related field

- At least 10 years of acquisition experience (as of 1 Oct 91)

EXPERIENCE:

- One year of acquisition experience

TRAINING:

- ACQ 101 Fundamentals of System Acquisition Management [BU5]

- TST 101 Introduction to Acquisition Workforce Test and Evaluation [PC5] Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

TEST AND EVALUATION - LEVEL 2

EDUCATION:

Have ONE of:

- Baccaulaureate degree with 24 semester hours, or equivalent, in physical science, mathematics, chemistry, engineering, physics, operations research, or a related field

- At least 10 years of acquisition experience (as of 1 Oct 91)

- (Desired) Master's degree in one of the above fields

- (Desired) Two 3 Continuing Education Unit (CEU) technical courses in a test and evaluation specialty area

EXPERIENCE:

- Two years of acquisition experience, of which at least one year is test and evaluation experience

- (Desired) An additional two years of acquisition experience, of which one year is test and evaluation experience

TRAINING:

- ACQ 201 Intermediate Systems Acquisition [JHA]
  Prerequisite: ACQ 101 Fundamentals of Systems Acquisition Mgmt [BU5]

- TST 202 Intermediate Test and Evaluation [QMI]
  Prerequisites:
  TST 101 Introduction to Acquisition Workforce Test and Evaluation [PC5]
  ACQ 201 Intermediate Systems Acquisition [JHA]

TEST AND EVALUATION - LEVEL 3

EDUCATION:

Have ONE of:
- Baccaulaureate degree with 24 semester hours, or equivalent, in physical science, mathematics, chemistry, engineering, physics, operations research, or a related field
- At least 10 years of acquisition experience (as of 1 Oct 91)
- (Desired) At least 12 semester credit hours from among: accounting, business finance, law, contracts, purchasing, economics, industrial management, marketing, business quantitative methods, organization and management. Equivalency exams may be substituted.
- (Desired) Master's degree in physical science, mathematics, chemistry, engineering, physics, operations research, or a related field
- (Desired) One 3 Continuing Education Unit (CEU) technical course (in addition to those required at Level II) in a test and evaluation specialty area

EXPERIENCE:

- Four years of acquisition experience, of which at least two years is test and evaluation experience

- (Desired) Four additional years of acquisition experience, of which at least two years are test and evaluation experience

TRAINING:

- TST 301 Advanced Test and Evaluation [QL9]
    Prerequisite: TST 202 Intermediate Test and Evaluation [QMI]

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Vita

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13. ABSTRACT (Maximum 200 Words)

This thesis explores the current issues of defense acquisition management in the Republic of China (ROC). The purpose of this research is to examine the managerial functions in defense acquisition system and provide recommendations for further acquisition reform in the ROC. Using the exploratory case study approach, this research took a broad look at the ROC defense acquisition system by comparing it with the US acquisition system. To analyze the difference, five functional indicators were selected. These five indicators which represent the managerial functions during the acquisition process include the Policy and Statutes, the Acquisition Process, the Acquisition Organization, the Acquisition Workforce Training Systems, and the Contracting Management. The results showed that there are several defects among these managerial functions. The major shortcoming of the defense acquisition management in the ROC is the overall concept about the acquisition. The weak definition on acquisition contributes most to the defects found in this study. To remove these defects, this research provided some recommendations to improve the functions of defense acquisition management in the ROC.

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